



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 40: September 28 – October 4, 2014

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri is No Activity<sup>2</sup>.
- No specimens were received by the State Public Health Laboratory for viral testing during week 40. A season-to-date total of eight influenza cases have been reported in Missouri.
- Influenza-like illness activity continues to remain well below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 0.39% and 0.8% through ILINet and ESSENCE respectively<sup>3</sup>.
- No outbreaks of influenza or ILI were reported during Week 40 in Missouri. No ILI-associated school closures were reported during Week 40.
- No influenza-associated pediatric deaths have been reported in Missouri to date, this influenza season. During Week 39, 63 deaths were reported involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records, resulting in a season-to-date total of 63 P&I associated deaths in Missouri<sup>4</sup>.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

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<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>No activity is defined as influenza-like illness activity is low and there are no lab confirmed cases. The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses, but does not measure the severity of influenza activity. Influenza activity is reported to the Centers for Disease Control and Prevention each Wednesday during the influenza season.

<sup>3</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>4</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

**Table 1. Number of Laboratory-positive Influenza Cases by Influenza Type, Missouri, CDC Week 40 (September 28 – October 4, 2014)**

Influenza Type	Week 40	2014-2015 Season-to-Date*
Influenza A	2	2
Influenza B	6	6
Influenza Unknown Or Untyped	0	0
<b>Total</b>	<b>8</b>	<b>8</b>

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 40 (September 28 – October 4, 2014)**

Age Group	Week 40 Cases	Week 40 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
00-04	2	1	2	1
05-14	0	0	0	0
15-64	4	0	4	0
65+	2	0	2	0
<b>Total</b>	<b>8</b>	<b>0</b>	<b>8</b>	<b>0</b>

\*Incidence Rate per 100,000 population

<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

Data Source: Missouri Health Information Surveillance System (WebSurv)

**Table 3. Number of Laboratory-positive Influenza Cases and Case Rates by Region, Missouri, CDC Week 40 (September 28 – October 4, 2014)**

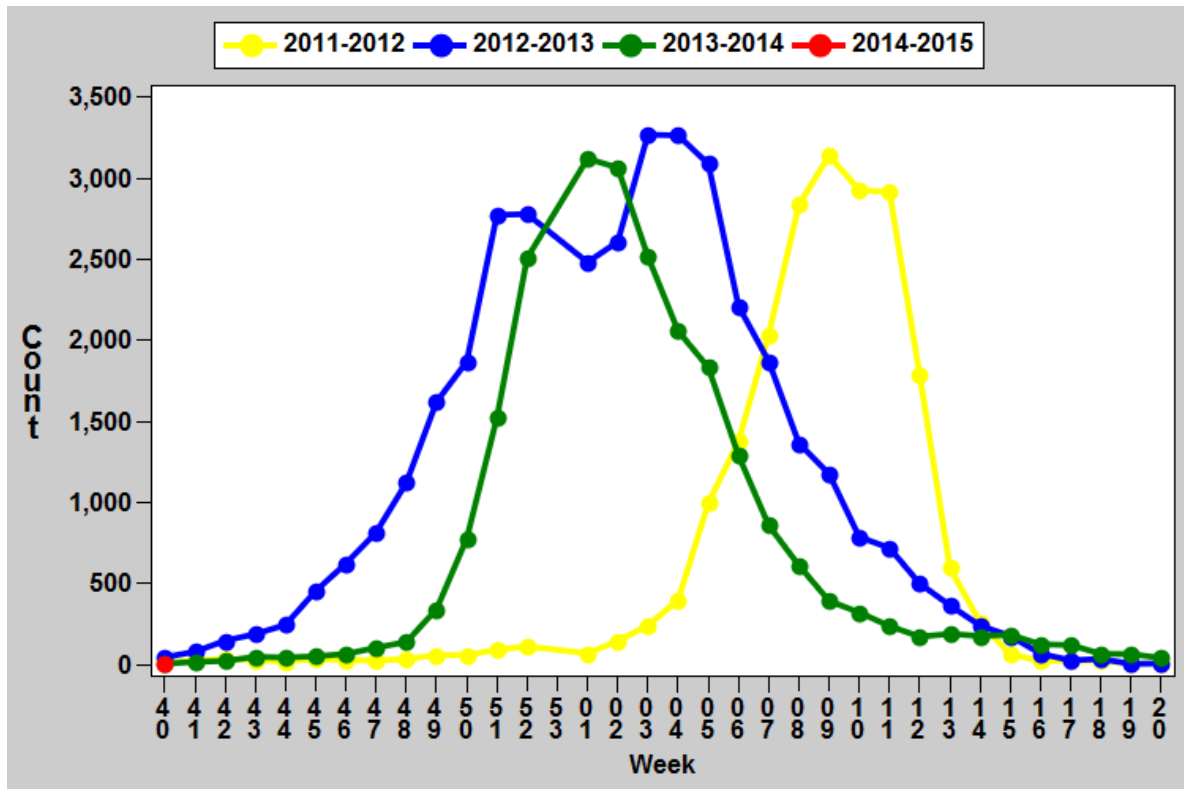
District	Week 40 Cases	Week 40 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
CE	3	0	3	0
EA	3	0	3	0
NW	2	0	2	0
SE	0	0	0	0
SW	0	0	0	0
<b>Total</b>	<b>8</b>	<b>0</b>	<b>8</b>	<b>0</b>

\*Incidence Rate per 100,000 population

<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

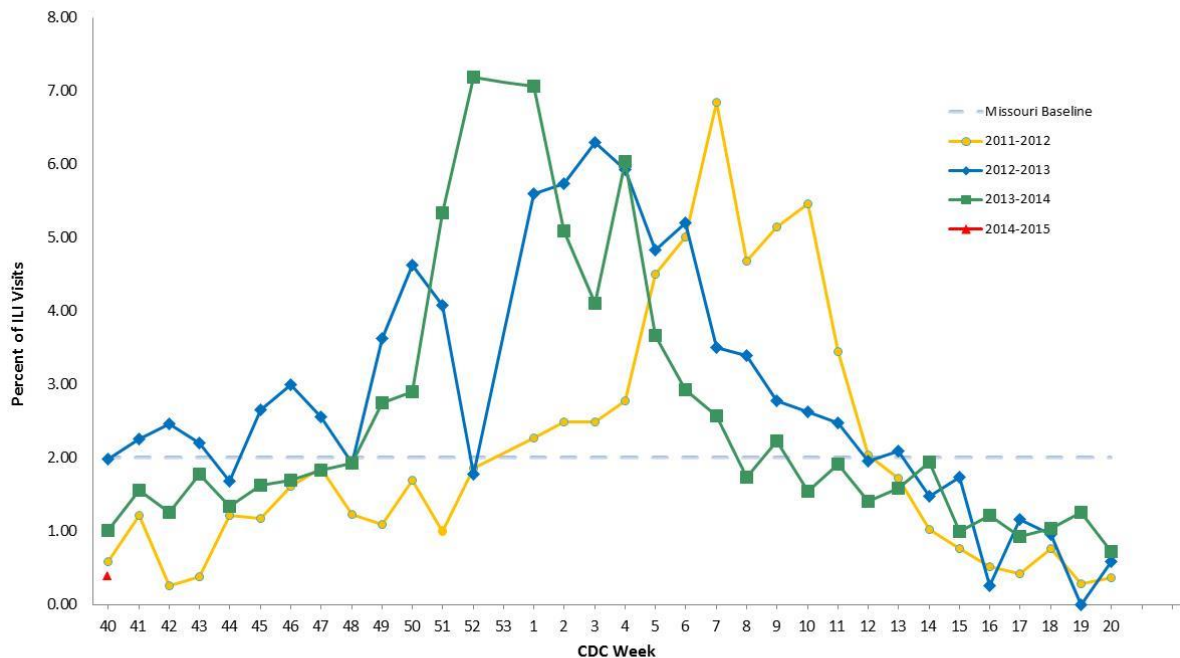
Data Source: Missouri Health Information Surveillance System (WebSurv)

**Graph 1. Number of Laboratory-positive Influenza Cases by CDC Week, Missouri, 2011 – 2015\***



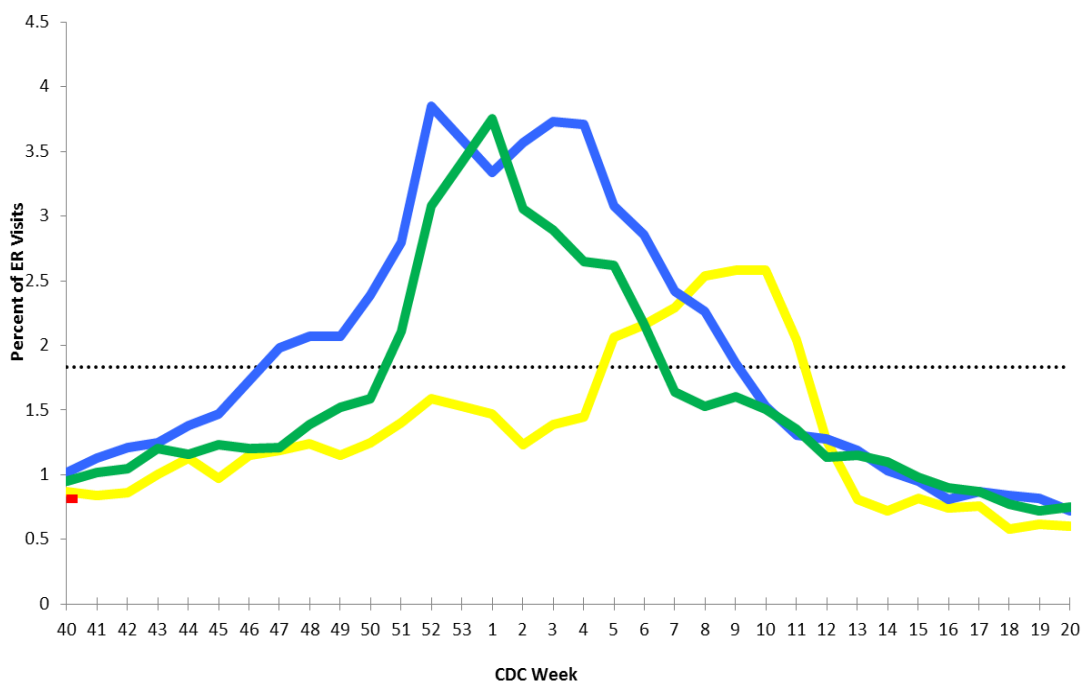
\*2014-2015 Season-to-Date through the week ending May 23, 2015 (Week 20)  
Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending May 23, 2015 (Week 20)

**Graph 3. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015\***



\*2014-2015 Season-to-Date through the week ending May 23, 2015 (Week 20)

ESSENCE ILI Baseline is the mean of the values during previous influenza seasons (week 40-20, 2006-07, 2008-09 and 2010-2011) when influenza activity was low.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 40 (September 28 – October 4, 2014)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	1.3%	1.6%	0.7 %	0.7%	0.3%	0.8%
Central	3.2%	1.3 %	1.2%	0.7%	0.4%	1.1%
Eastern	0.9%	0.6%	0.5%	0.4%	0.3%	0.5%
Southeast	2.9%	2.1%	0.3%	0.3%	0.8%	0.8%
Southwest	4.1%	3.9%	0.9%	0.5 %	0.4%	1.4 %
Statewide	<b>2.0 %</b>	<b>1.8%</b>	<b>0.7 %</b>	<b>0.5%</b>	<b>0.4%</b>	<b>0.8%</b>

\*2014-2015 Season-to-Date through the week ending May 23, 2015 (Week 20)





# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 41: October 5 – October 11, 2014

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri is No Activity<sup>2</sup>.
- No laboratory-confirmed cases were reported for week 41. A season-to-date total of 24 influenza cases have been reported in Missouri.
- Influenza-like illness activity continues to remain well below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 1.04% and 1.0% through ILINet and ESSENCE respectively<sup>3</sup>.
- No outbreaks of influenza or ILI were reported during Week 41 in Missouri. No ILI-associated school closures were reported during Week 41.
- No influenza-associated pediatric deaths have been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 59 deaths during Week 40, resulting in a season-to-date total of 122 P&I associated deaths in Missouri<sup>4</sup>.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

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<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>No activity is defined as influenza-like illness activity is low and there are no lab confirmed cases. The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses, but does not measure the severity of influenza activity. Influenza activity is reported to the Centers for Disease Control and Prevention each Wednesday during the influenza season.

<sup>3</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>4</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

**Table 1. Number of Laboratory-positive Influenza Cases by Influenza Type, Missouri, CDC Week 40-41 (September 28 – October 11, 2014)**

Influenza Type	Week 40	Week 41	2014-2015 Season-to-Date*
Influenza A	2	7	9
Influenza B	8	7	15
Influenza Unknown Or Untyped	0	0	0
<b>Total</b>	<b>10</b>	<b>14</b>	<b>24</b>

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 41 (October 5 – October 11, 2014)**

Age Group	Week 41 Cases	Week 41 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
00-04	1	0	4	1
05-14	1	0	1	0
15-64	10	0	14	0
65+	2	0	5	1
<b>Total</b>	<b>14</b>	<b>0</b>	<b>24</b>	<b>0</b>

\*Incidence Rate per 100,000 population

<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv)

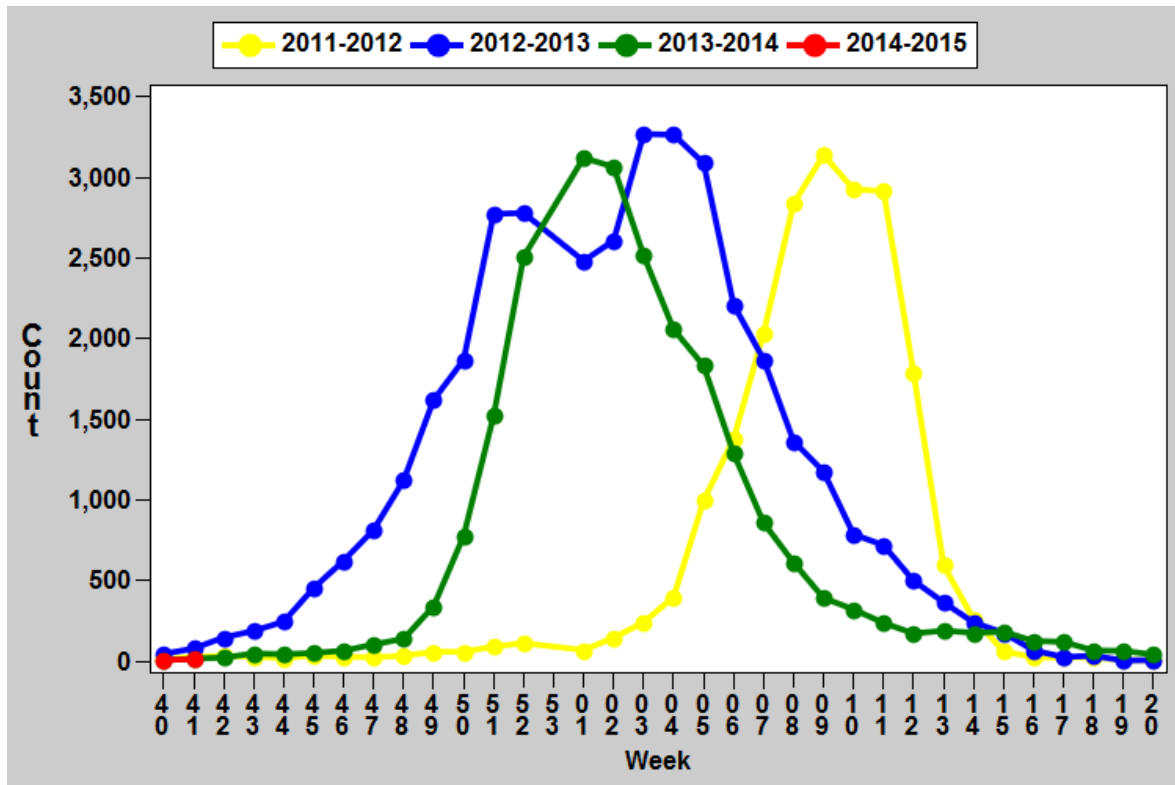
**Table 3. Number of Laboratory-positive Influenza Cases and Case Rates by Region, Missouri, CDC Week 41 (October 5 – October 11, 2014)**

District	Week 41 Cases	Week 41 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
CE	0	0	4	1
EA	4	0	7	0
NW	10	1	12	1
SE	0	0	0	0
SW	0	0	1	0
<b>Total</b>	<b>14</b>	<b>0</b>	<b>24</b>	<b>0</b>

\*Incidence Rate per 100,000 population

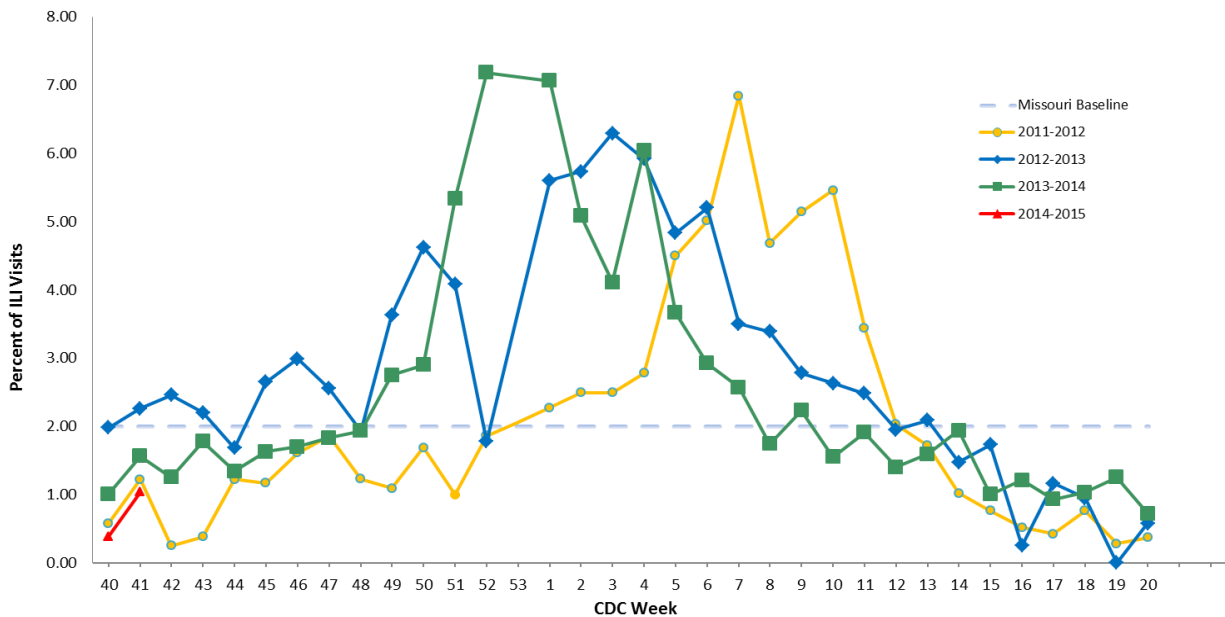
<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv)

**Graph 1. Number of Laboratory-positive Influenza Cases by CDC Week, Missouri, 2011 – 2015\***



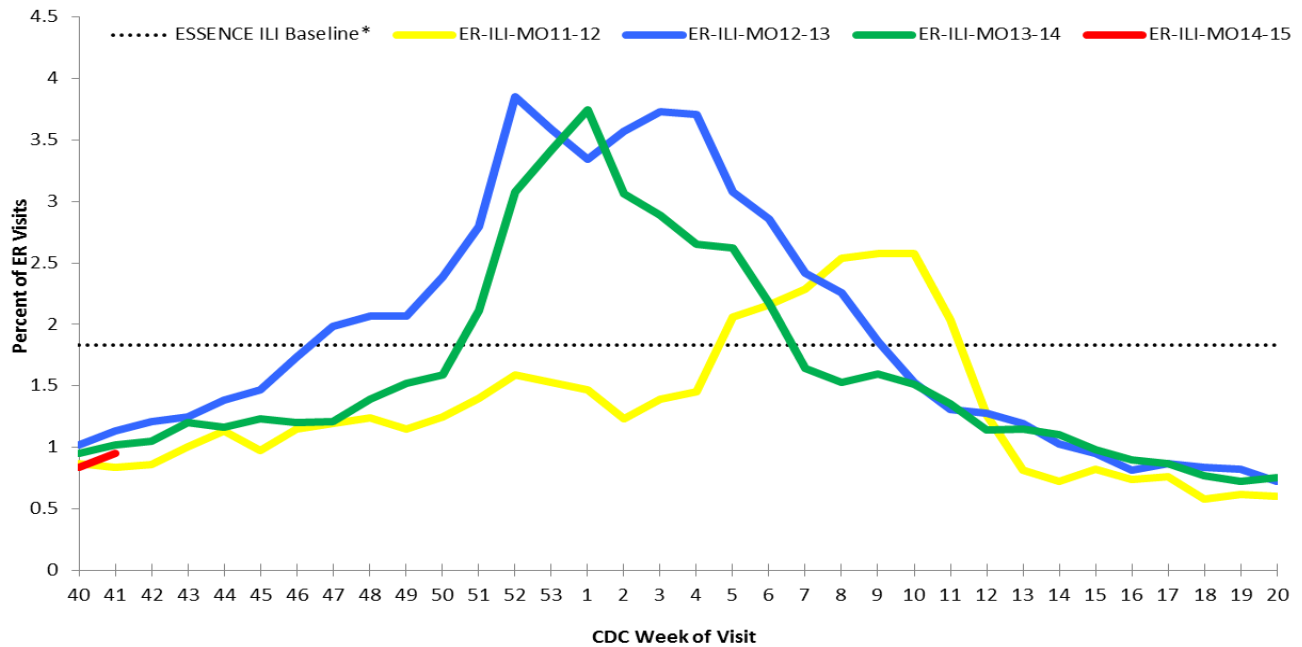
\*2014-2015 Season-to-Date through the week ending May 23, 2015 (Week 20)  
Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending May 23, 2015 (Week 20)

**Graph 3. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

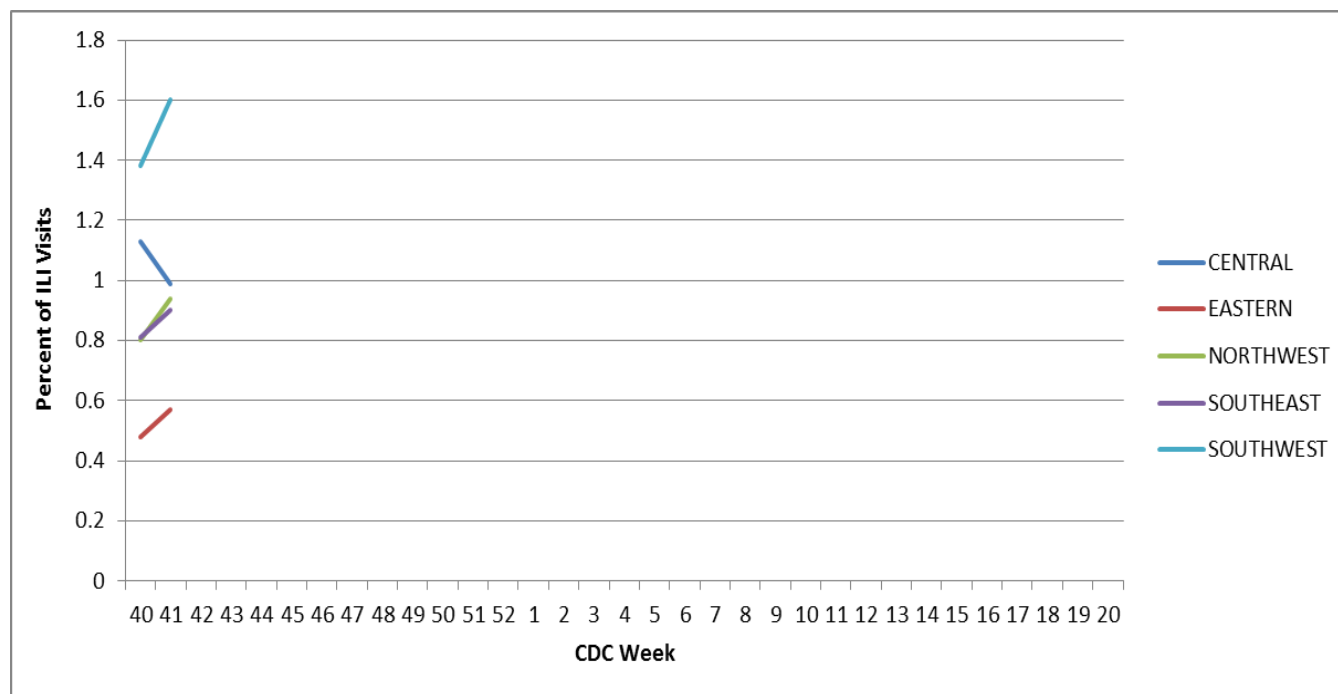
\*ESSENCE ILI Baseline is the mean of the values during previous influenza seasons (week 40-20, 2006-07, 2008-09 and 2010-2011) when influenza activity was low.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 41 (October 5 – October 11, 2014)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	0.9%	1.9%	1.2%	0.5%	0.1%	0.9%
Central	3.6%	1.0%	1.0%	0.6%	0.4%	1.0%
Eastern	1.2%	0.9%	0.7%	0.2%	0.2%	0.6%
Southeast	4.1%	1.4%	0.6%	0.3%	0.5%	0.9%
Southwest	4.6%	4.5%	1.1%	0.6%	0.4%	1.6%
Statewide	2.1%	2.0%	1.0%	0.4%	0.3%	1.0%

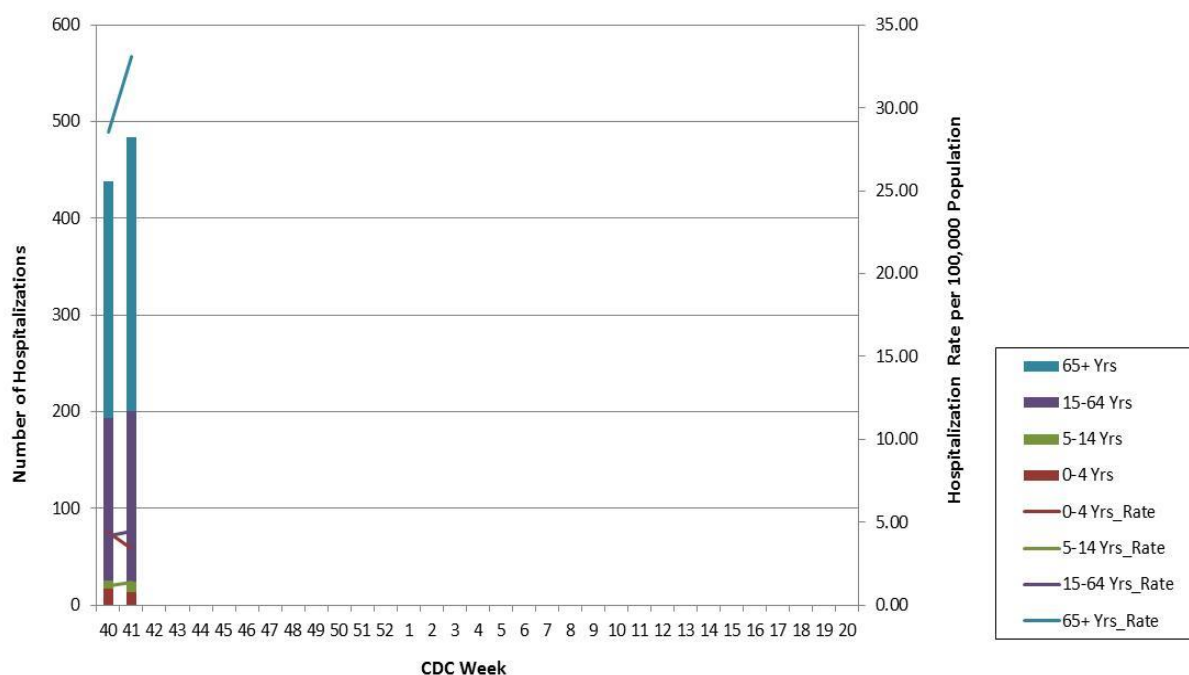
\*2014-2015 Season-to-Date through the week ending May 23, 2015 (Week 20)

**Graph 4. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



\*2014-2015 Season-to-Date through the week ending May 23, 2015 (Week 20)

**Graph 5. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



\*2014-2015 Season-to-Date through the week ending May 23, 2015 (Week 20)

Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 42: October 12 – October 18, 2014

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri is No Activity<sup>2</sup>.
- No laboratory-confirmed cases were reported for week 42. A season-to-date total of 50 influenza cases have been reported in Missouri.
- Influenza-like illness activity continues to remain below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 1.64% and 1.1% through ILINet and ESSENCE respectively<sup>3</sup>.
- No outbreaks of influenza or ILI were reported during Week 42 in Missouri. No ILI-associated school closures were reported during Week 42.
- No influenza-associated pediatric deaths have been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 48 deaths during Week 41, resulting in a season-to-date total of 170 P&I associated deaths in Missouri<sup>4</sup>.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

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<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>No activity is defined as influenza-like illness activity is low and there are no lab confirmed cases. The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses, but does not measure the severity of influenza activity. Influenza activity is reported to the Centers for Disease Control and Prevention each Wednesday during the influenza season.

<sup>3</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>4</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

**Table 1. Number of Laboratory-positive Influenza Cases by Influenza Type, Missouri, CDC Week 40-42 (September 28 – October 18, 2014)**

Influenza Type	Week 40	Week 41	Week 42	2014-2015 Season-to-Date*
Influenza A	3	11	7	21
Influenza B	8	13	7	28
Influenza Unknown Or Untyped	0	1	0	1
<b>Total</b>	<b>11</b>	<b>25</b>	<b>14</b>	<b>50</b>

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 42 (October 12 – October 18, 2014)**

Age Group	Week 42 Cases	Week 42 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
00-04	1	0	6	2
05-14	1	0	2	0
15-64	8	0	33	1
65+	4	0	9	1
<b>Total</b>	<b>14</b>	<b>0</b>	<b>50</b>	<b>1</b>

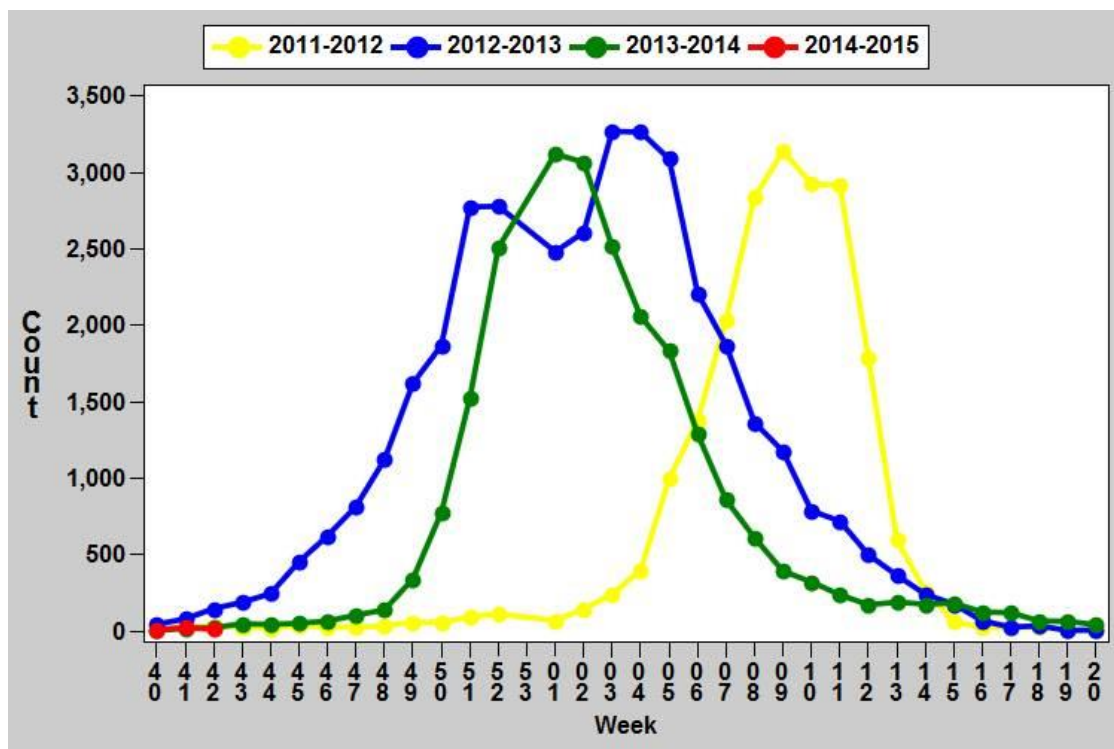
\*Incidence Rate per 100,000 population  
<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv)

**Table 3. Number of Laboratory-positive Influenza Cases and Case Rates by Region, Missouri, CDC Week 42 (October 12 – October 18, 2014)**

District	Week 42 Cases	Week 42 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
CE	2	0	9	1
EA	7	0	17	1
NW	2	0	20	1
SE	3	1	3	1
SW	0	0	1	0
<b>Total</b>	<b>14</b>	<b>0</b>	<b>50</b>	<b>1</b>

\*Incidence Rate per 100,000 population  
<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv)

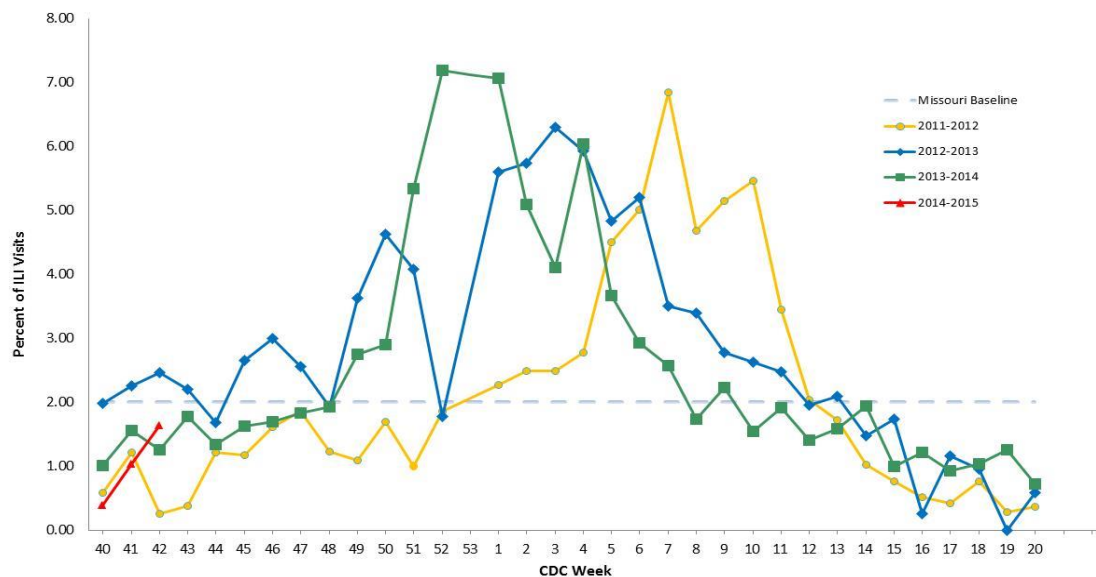
**Graph 1. Number of Laboratory-positive Influenza Cases by CDC Week, Missouri, 2011-2015\***



\*2014-2015 Season-to-Date through the week ending May 23, 2015 (Week 20)

Data Source: Missouri Health Information Surveillance System (WebSurv).

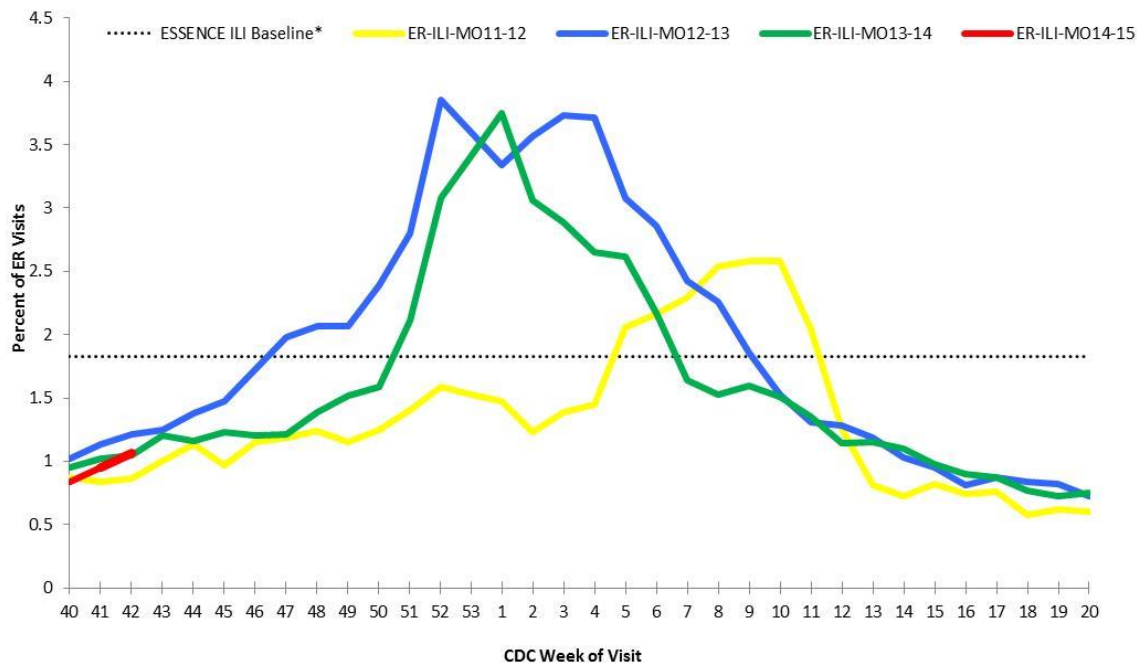
**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending May 23, 2015 (Week 20)



**Graph 3. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

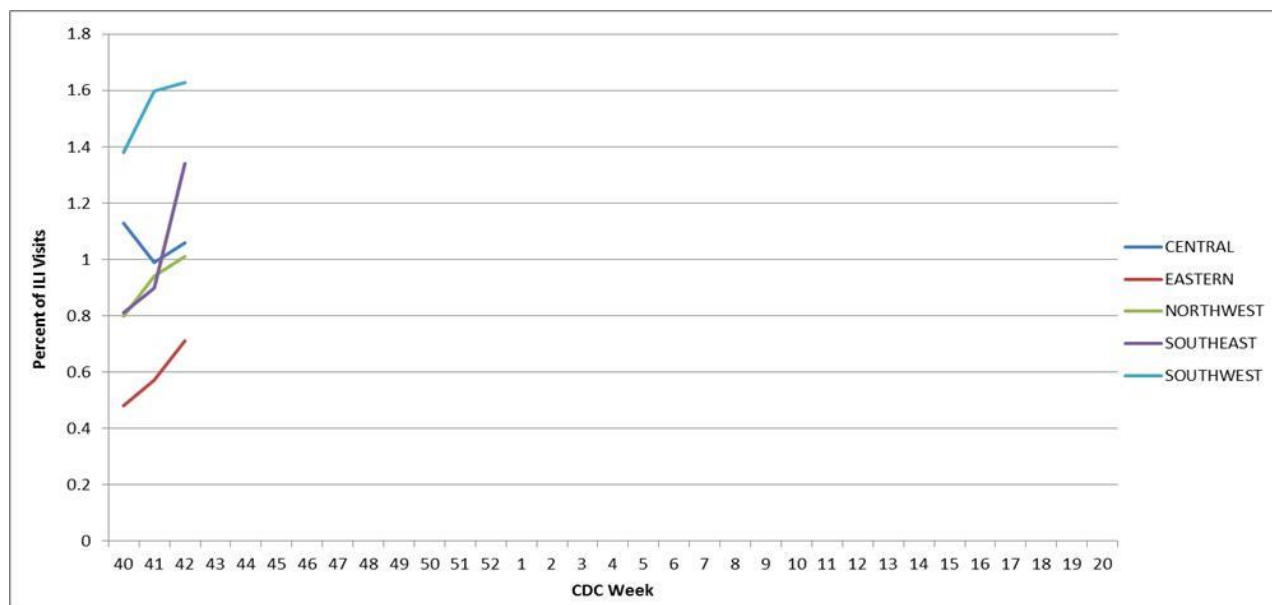
\*ESSENCE ILI Baseline is the mean of the values during previous influenza seasons (week 40-20, 2006-07, 2008-09 and 2010-2011) when influenza activity was low.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 42 (October 12 – October 18, 2014)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	1.9%	1.9%	0.9 %	0.8%	0.2%	1.0%
Central	4.4%	1.5 %	0.9%	0.7%	0.3%	1.1%
Eastern	1.5%	1.4%	0.8%	0.4%	0.2%	0.7 %
Southeast	5.4%	4.1%	1.1%	0.5%	0.2%	1.3%
Southwest	5.8%	4.5%	1.2%	0.5 %	0.3 %	1.6 %
Statewide	<b>2.9 %</b>	<b>2.4%</b>	<b>0.9 %</b>	<b>0.5%</b>	<b>0.2%</b>	<b>1.1%</b>

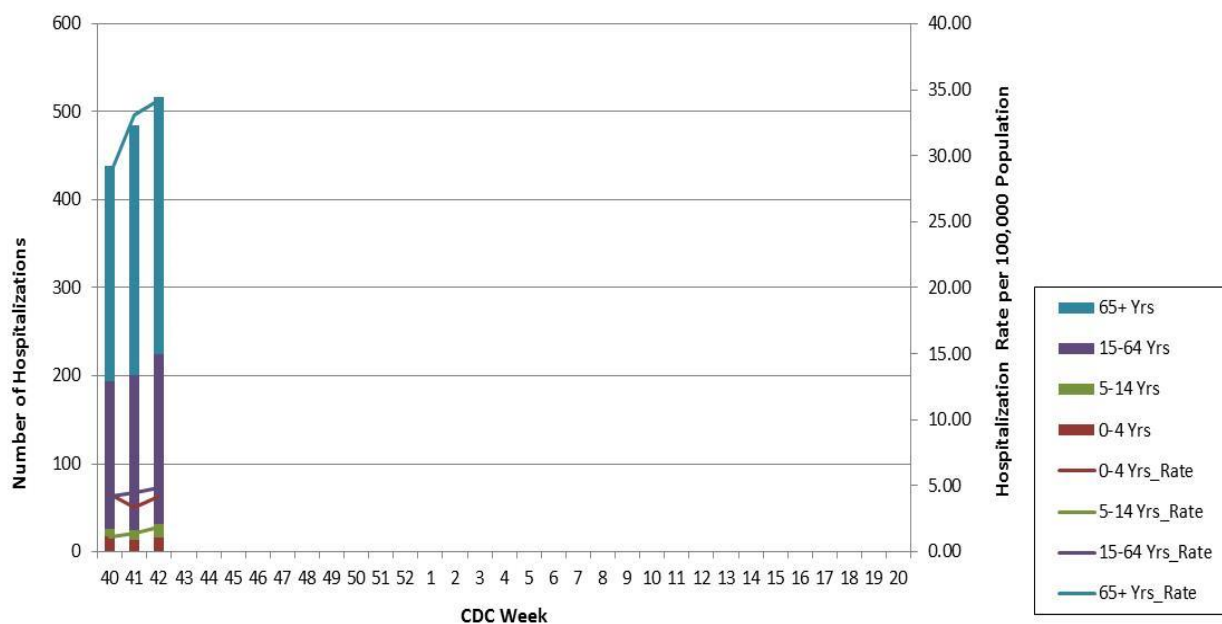
\*2014-2015 Season-to-Date through the week ending May 23, 2015 (Week 20)

**Graph 4. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



\*2014-2015 Season-to-Date through the week ending May 23, 2015 (Week 20)

**Graph 5. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



\*2014-2015 Season-to-Date through the week ending May 23, 2015 (Week 20)

Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 43: October 19 – October 25, 2014

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri is No Activity<sup>2</sup>.
- No laboratory-confirmed cases were reported for week 43. A season-to-date total of 89 influenza cases have been reported in Missouri.
- Influenza-like illness activity continues to remain below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 1.54% and 1.1% through ILINet and ESSENCE respectively<sup>3</sup>.
- No outbreaks of influenza or ILI were reported during Week 43 in Missouri. No ILI-associated school closures were reported during Week 43.
- Pneumonia and Influenza (P&I) data for Week 42 were not available at time of report.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

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<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>No activity is defined as influenza-like illness activity is low and there are no lab confirmed cases. The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses, but does not measure the severity of influenza activity. Influenza activity is reported to the Centers for Disease Control and Prevention each Wednesday during the influenza season.

<sup>3</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>4</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

**Table 1. Number of Laboratory-positive Influenza Cases by Influenza Type, Missouri, CDC Week 41-43 (October 5 – October 25, 2014)**

Influenza Type	Week 41	Week 42	Week 43	2014-2015 Season-to-Date*
Influenza A	11	10	16	40
Influenza B	13	12	15	48
Influenza Unknown Or Untyped	1	0	0	1
<b>Total</b>	<b>25</b>	<b>22</b>	<b>31</b>	<b>89</b>

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 43 (October 19 – October 25, 2014)**

Age Group	Week 43 Cases	Week 43 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
00-04	3	1	11	3
05-14	8	1	10	1
15-64	15	0	52	1
65+	5	1	16	2
<b>Total</b>	<b>31</b>	<b>1</b>	<b>89</b>	<b>1</b>

\*Incidence Rate per 100,000 population

<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

Data Source: Missouri Health Information Surveillance System (WebSurv)

**Table 3. Number of Laboratory-positive Influenza Cases and Case Rates by Region, Missouri, CDC Week 43 (October 19 – October 25, 2014)**

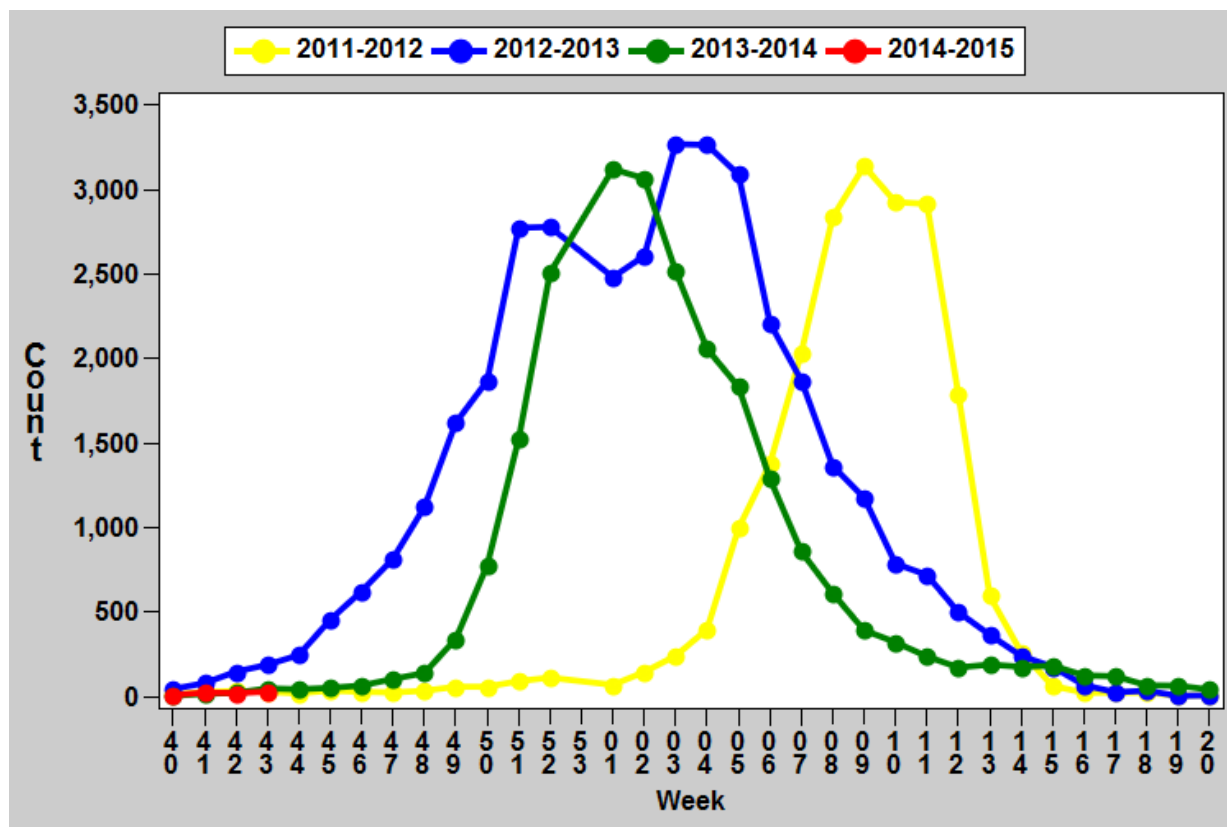
District	Week 43 Cases	Week 43 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
CE	5	1	14	2
EA	13	1	34	2
NW	10	1	31	2
SE	3	1	7	1
SW	0	0	3	0
<b>Total</b>	<b>31</b>	<b>1</b>	<b>89</b>	<b>1</b>

\*Incidence Rate per 100,000 population

<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

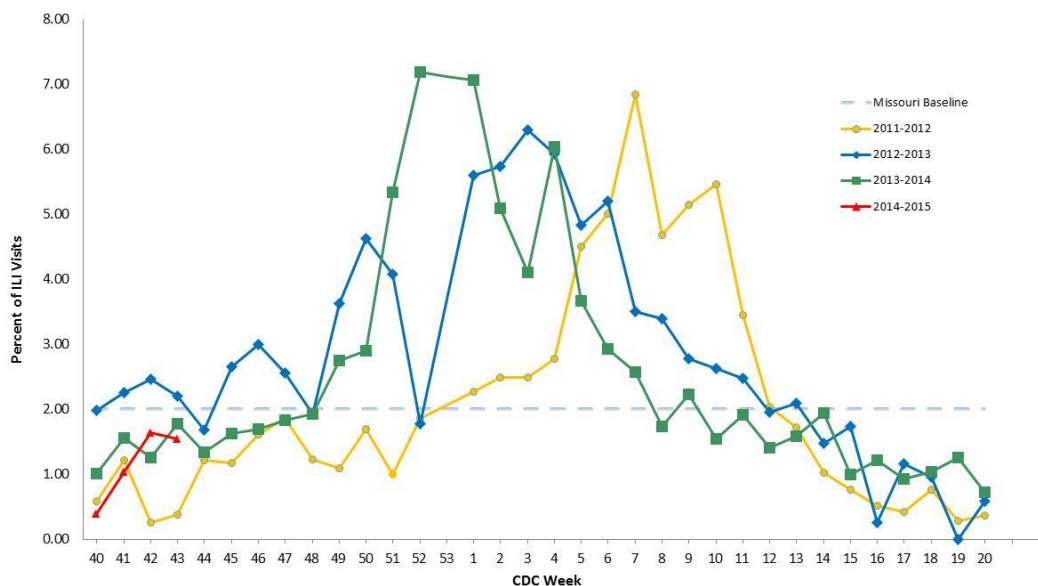
Data Source: Missouri Health Information Surveillance System (WebSurv)

**Graph 1. Number of Laboratory-positive Influenza Cases by CDC Week, Missouri, 2011-2015\***



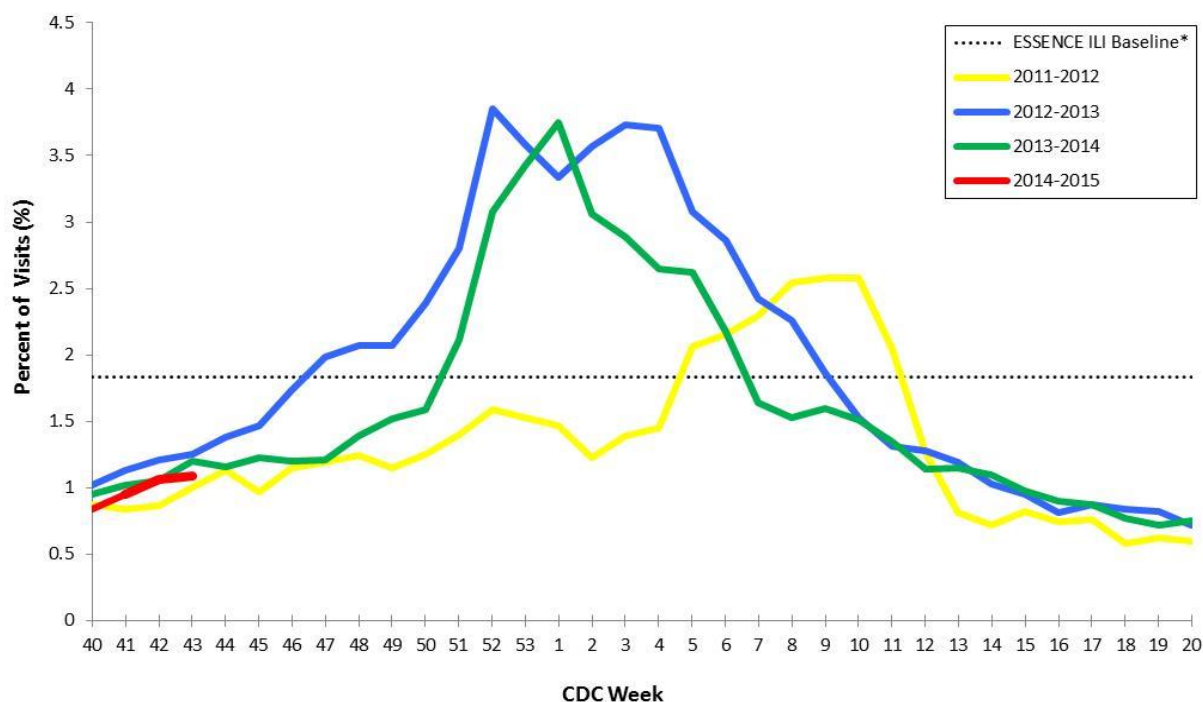
\*2014-2015 Season-to-Date through the week ending October 25, 2014 (Week 43)  
Data Source: Missouri Health Information Surveillance System (WebSur).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending October 25, 2014 (Week 43)

**Graph 3. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



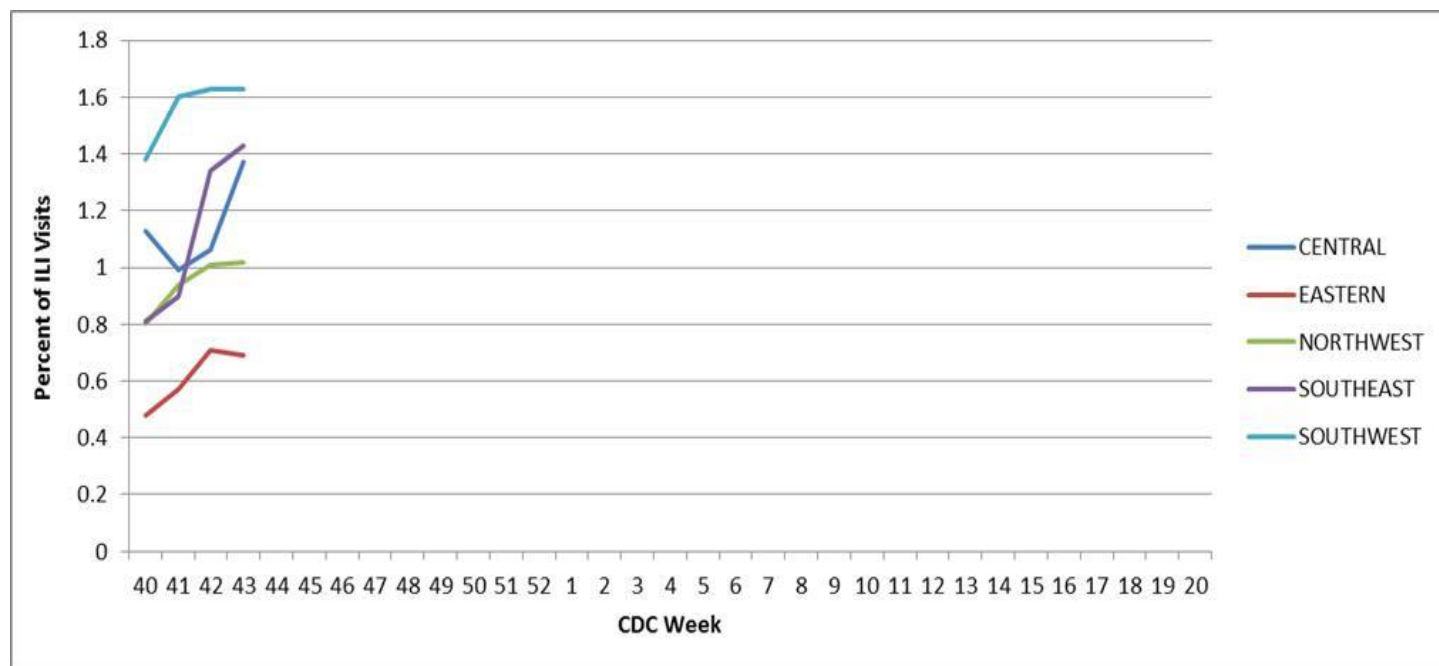
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

\*ESSENCE ILI Baseline is the mean of the values during previous influenza seasons (week 40-20, 2006-07, 2008-09 and 2010-2011) when influenza activity was low.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 43 (October 19 – October 25, 2014)**

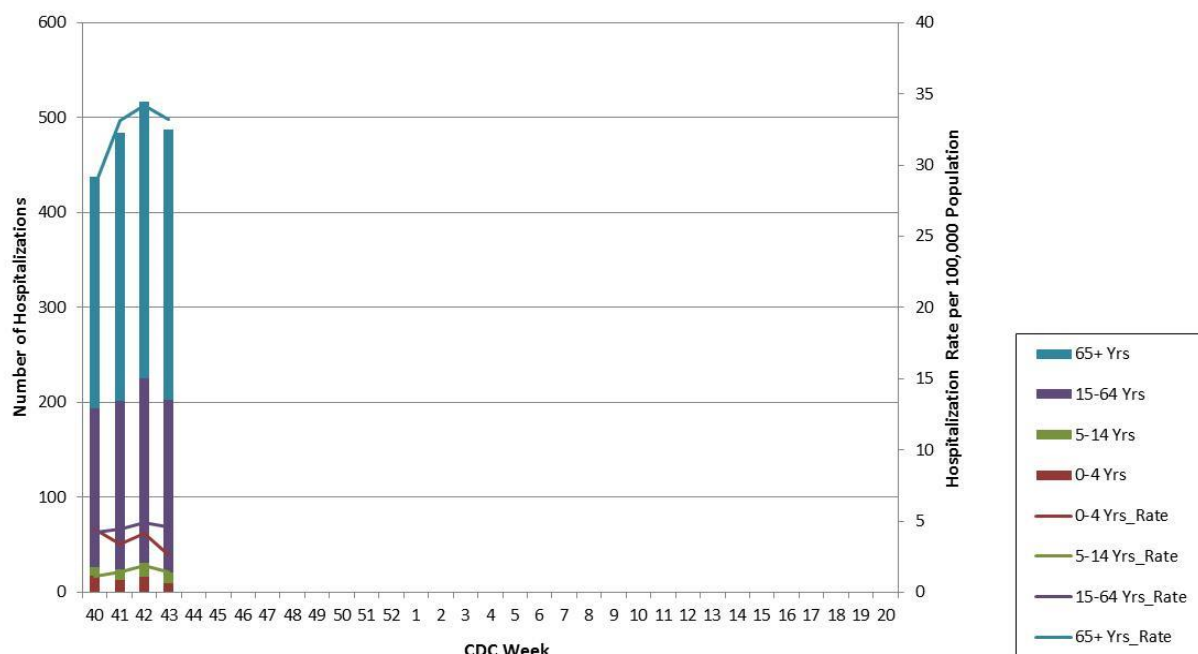
District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	1.9%	1.9%	1.0%	0.7%	0.3%	1.0%
Central	3.5%	2.6%	1.6%	0.5%	0.3%	1.4%
Eastern	1.5%	1.1%	0.7%	0.5%	0.2%	0.7%
Southeast	5.3%	3.2%	1.2%	0.8%	0.2%	1.4%
Southwest	5.2%	4.5%	1.0%	0.7%	0.6%	1.6%
Statewide	<b>2.7%</b>	<b>2.3%</b>	<b>1.0%</b>	<b>0.6%</b>	<b>0.3%</b>	<b>1.1%</b>

**Graph 4. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



\*2014-2015 Season-to-Date through the week ending October 25, 2014 (Week 43)

**Graph 5. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



\*2014-2015 Season-to-Date through the week ending October 25, 2014 (Week 43)

Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 44: October 26 – November 1, 2014

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri is No Activity<sup>2</sup>.
- No laboratory-confirmed cases were reported for week 44. A season-to-date total of 126 influenza cases have been reported in Missouri.
- Influenza-like illness activity continues to remain below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 0.73% and 1.0% through ILINet and ESSENCE respectively<sup>3</sup>.
- No outbreaks of influenza or ILI were reported during Week 44 in Missouri. No ILI-associated school closures were reported during Week 44.
- No influenza-associated pediatric deaths have been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records increased to 74 deaths during Week 43, resulting in a season-to-date total of 244 P&I associated deaths in Missouri<sup>4</sup>.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

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<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>No activity is defined as influenza-like illness activity is low and there are no lab confirmed cases. The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses, but does not measure the severity of influenza activity. Influenza activity is reported to the Centers for Disease Control and Prevention each Wednesday during the influenza season.

<sup>3</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>4</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.



## Surveillance Data:

**Table 1. Number of Laboratory-positive Influenza Cases by Influenza Type, Missouri, CDC Week 42-44 (October 12 – November 1, 2014)**

Influenza Type	Week 42	Week 43	Week 44	2014-2015 Season-to-Date*
Influenza A	13	19	25	71
Influenza B	12	16	4	53
Influenza Unknown Or Untyped	0	1	0	2
<b>Total</b>	<b>25</b>	<b>36</b>	<b>29</b>	<b>126</b>

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 44 (October 26 – November 1, 2014)**

Age Group	Week 44 Cases	Week 44 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
00-04	4	1	16	4
05-14	3	0	13	2
15-64	18	0	75	2
65+	4	0	22	2
<b>Total</b>	<b>29</b>	<b>0</b>	<b>126</b>	<b>2</b>

\*Incidence Rate per 100,000 population

<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

Data Source: Missouri Health Information Surveillance System (WebSurv)

**Table 3. Number of Laboratory-positive Influenza Cases and Case Rates by Region, Missouri, CDC Week 44 (October 26 – November 1, 2014)**

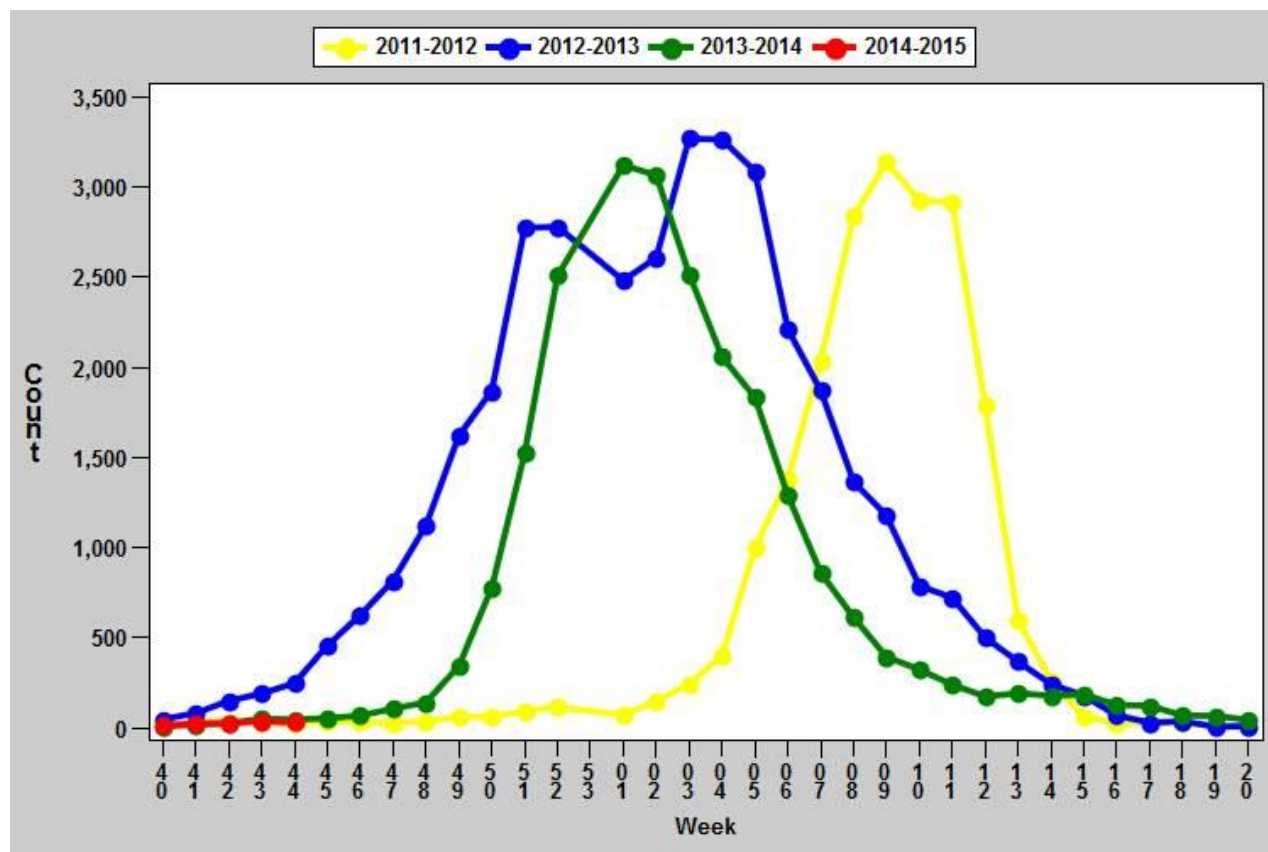
District	Week 44 Cases	Week 44 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
CE	1	0	15	2
EA	13	1	47	2
NW	11	1	48	3
SE	0	0	9	2
SW	4	0	7	1
<b>Total</b>	<b>29</b>	<b>0</b>	<b>126</b>	<b>2</b>

\*Incidence Rate per 100,000 population

<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

Data Source: Missouri Health Information Surveillance System (WebSurv)

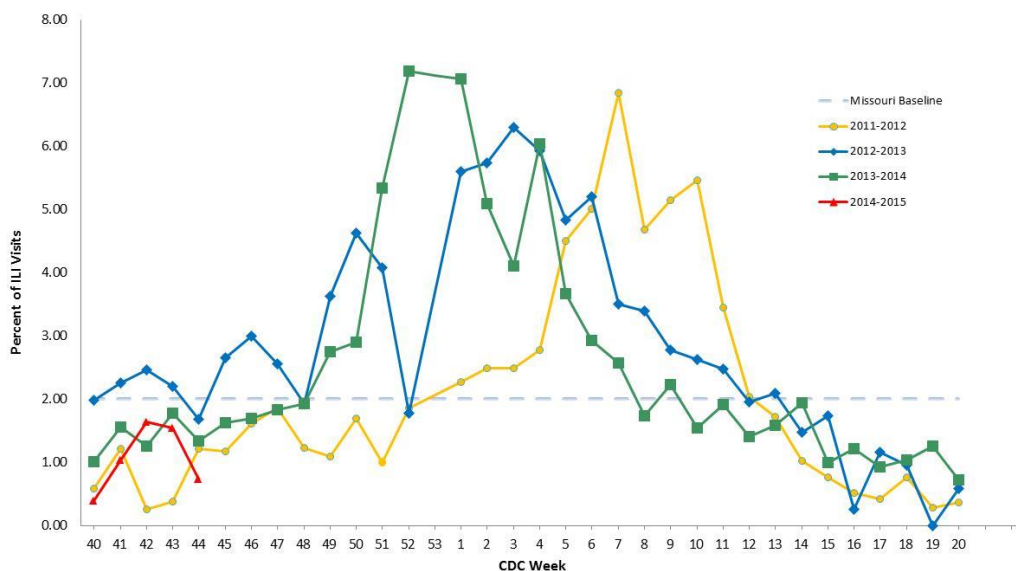
**Graph 1. Number of Laboratory-positive Influenza Cases by CDC Week, Missouri, 2011-2015\***



\*2014-2015 Season-to-Date through the week ending November 1, 2014 (Week 44)

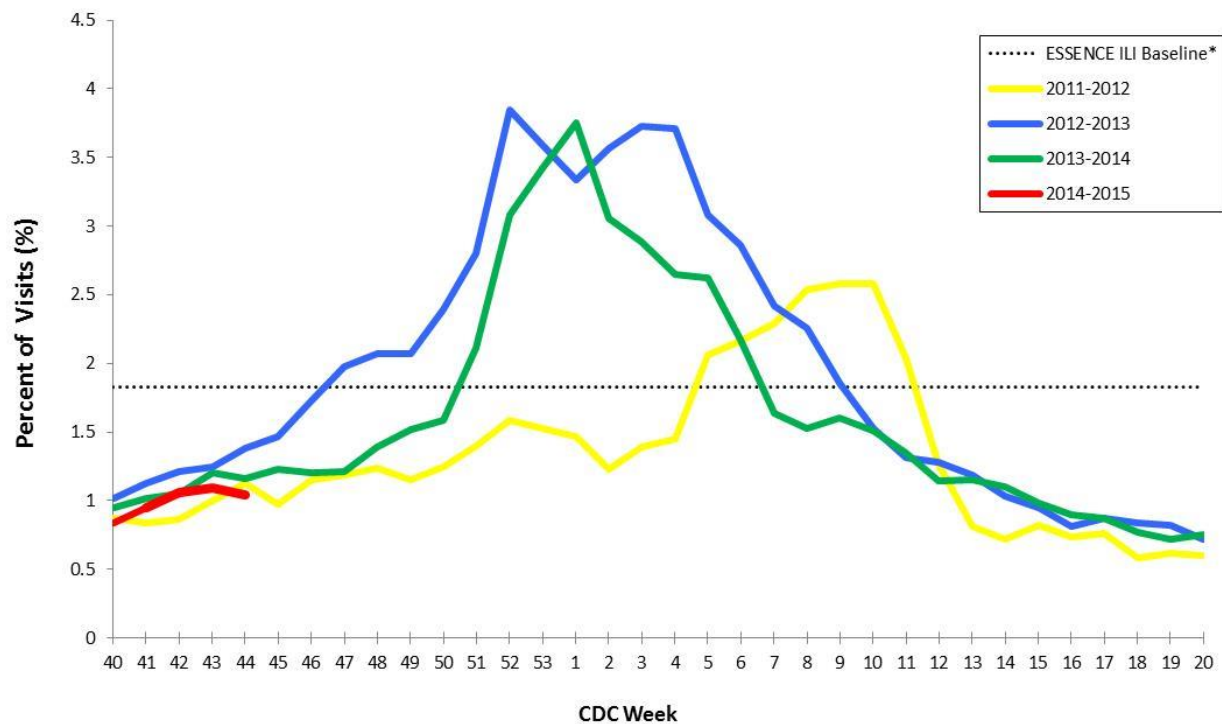
Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending November 1, 2014 (Week 44)

**Graph 3. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



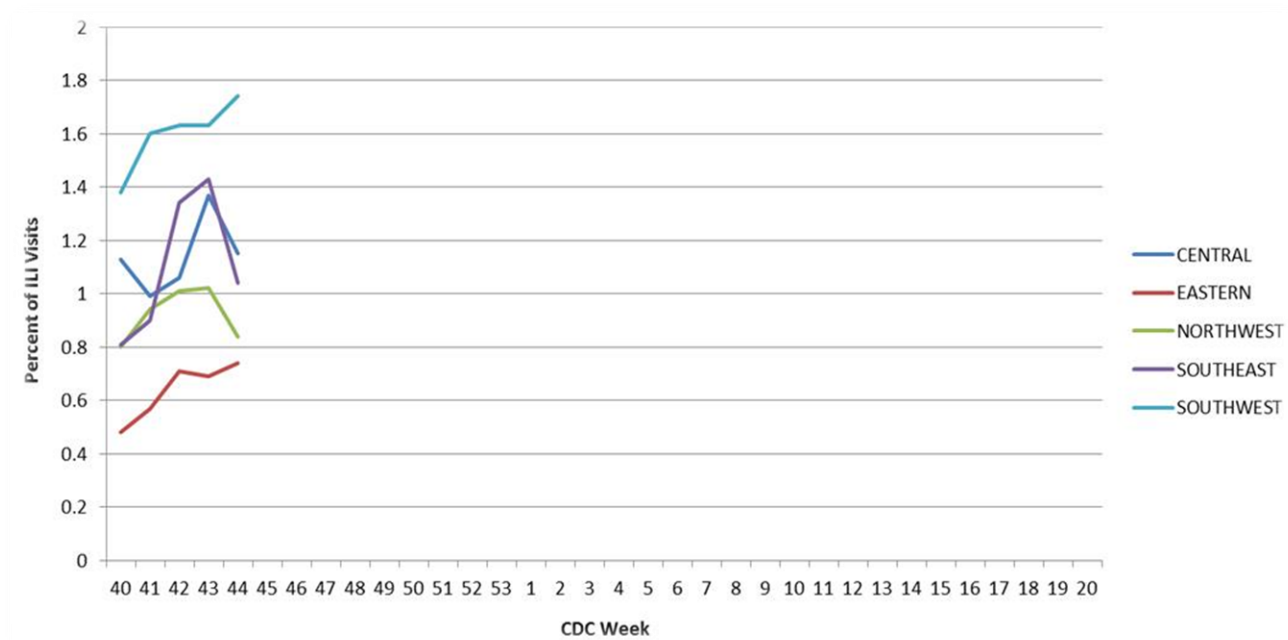
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

\*ESSENCE ILI Baseline is the mean of the values during previous influenza seasons (week 40-20, 2006-07, 2008-09 and 2010-2011) when influenza activity was low.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 44 (October 26 – November 1, 2014)**

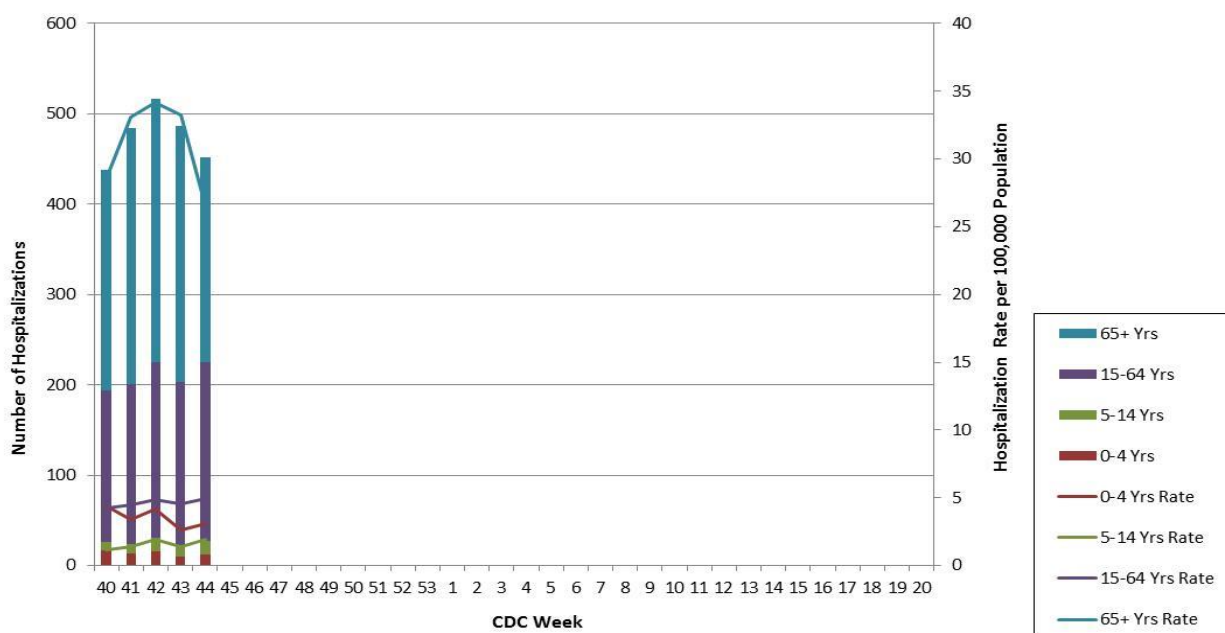
District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	1.2%	1.8%	0.9%	0.5%	0.3%	0.8%
Central	3.0%	2.3%	1.0%	1.0%	0.4%	1.2%
Eastern	1.2%	1.3%	0.8%	0.5%	0.3%	0.7%
Southeast	5.3%	3.2%	0.7%	0.6%	0.5%	1.0%
Southwest	6.1%	4.6 %	1.2%	1.0%	0.4%	1.7%
Statewide	2.2%	2.4%	0.9%	0.6%	0.4 %	1.0%

**Graph 4. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



\*2014-2015 Season-to-Date through the week ending November 1, 2014 (Week 44)

**Graph 5. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



\*2014-2015 Season-to-Date through the week ending November 1, 2014 (Week 44)

Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 45: November 2 – November 8, 2014

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri is Sporadic<sup>2</sup>.
- One laboratory-confirmed case was reported for week 45. A season-to-date total of 176 influenza cases have been reported in Missouri.
- Influenza-like illness activity continues to remain below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 1.52% and 1.2% through ILINet and ESSENCE respectively<sup>3</sup>.
- No outbreaks of influenza or ILI were reported during Week 45 in Missouri. No ILI-associated school closures were reported during Week 45.
- No influenza-associated pediatric deaths have been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records increased to 88 deaths during Week 44, resulting in a season-to-date total of 332 P&I associated deaths in Missouri<sup>4</sup>.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

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<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Sporadic Activity is defined as: influenza-like illness activity has not increased and there are isolated lab-confirmed cases or a lab-confirmed outbreak in a single institution in the state. The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses, but does not measure the severity of influenza activity. Influenza activity is reported to the Centers for Disease Control and Prevention each Wednesday during the influenza season.

<sup>3</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>4</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

**Table 1. Number of Laboratory-positive Influenza Cases by Influenza Type, Missouri, CDC Week 43-45 (October 19 – November 8, 2014)**

Influenza Type	Week 43	Week 44	Week 45	2014-2015 Season-to-Date*
Influenza A	20	31	27	110
Influenza B	17	6	6	62
Influenza Unknown Or Untyped	1	1	1	4
<b>Total</b>	<b>38</b>	<b>38</b>	<b>34</b>	<b>176</b>

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 45 (November 2 – November 8, 2014)**

Age Group	Week 45 Cases	Week 45 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
00-04	4	1	24	6
05-14	4	1	19	2
15-64	19	0	101	3
65+	7	1	32	4
<b>Total</b>	<b>34</b>	<b>1</b>	<b>176</b>	<b>3</b>

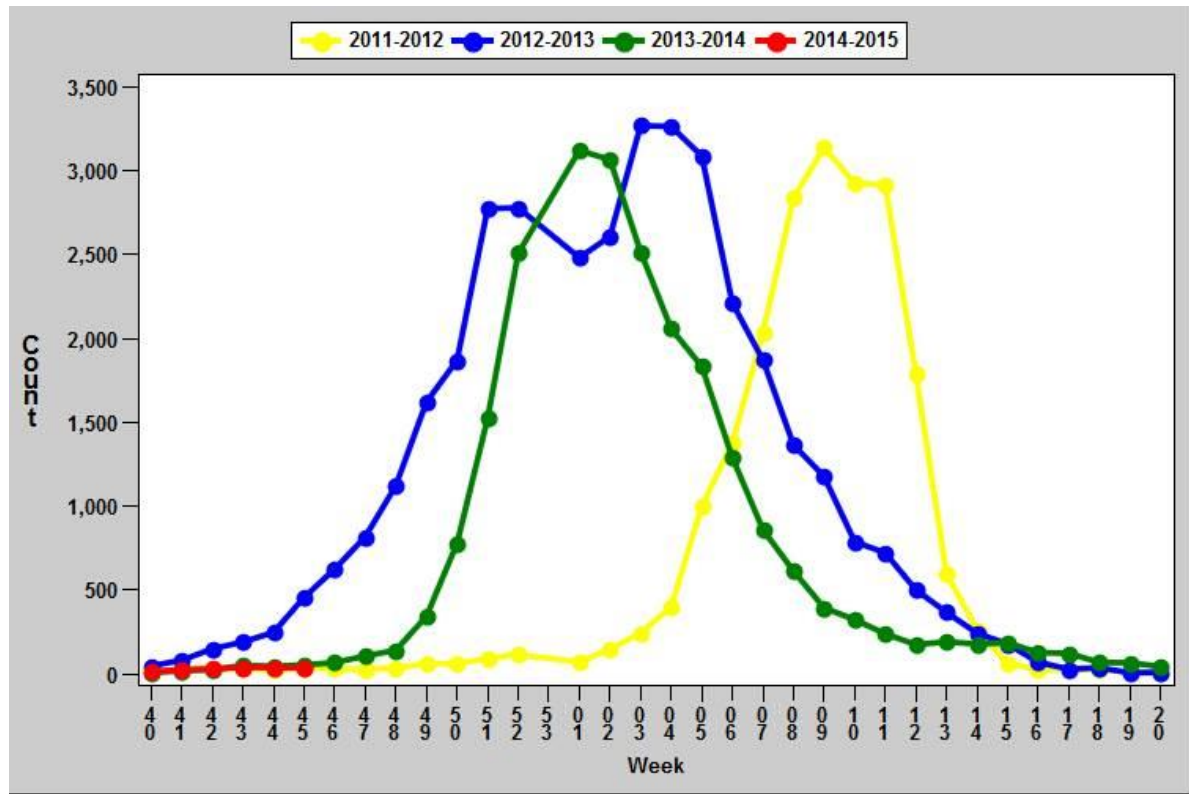
\*Incidence Rate per 100,000 population  
<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv)

**Table 3. Number of Laboratory-positive Influenza Cases and Case Rates by Region, Missouri, CDC Week 45 (November 2 – November 8, 2014)**

District	Week 45 Cases	Week 45 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
CE	2	0	25	4
EA	22	1	71	3
NW	7	0	58	4
SE	2	0	11	2
SW	1	0	11	1
<b>Total</b>	<b>34</b>	<b>1</b>	<b>176</b>	<b>3</b>

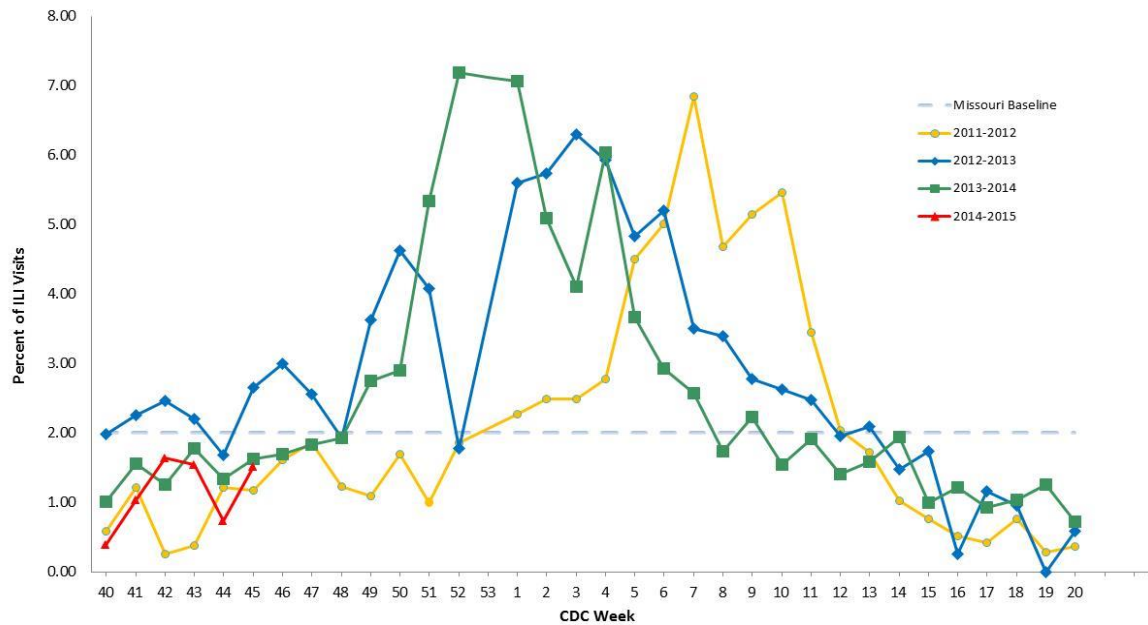
\*Incidence Rate per 100,000 population  
<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv)

**Graph 1. Number of Laboratory-positive Influenza Cases by CDC Week, Missouri, 2011-2015\***



\*2014-2015 Season-to-Date through the week ending November 8, 2014 (Week 45)  
Data Source: Missouri Health Information Surveillance System (WebSurv).

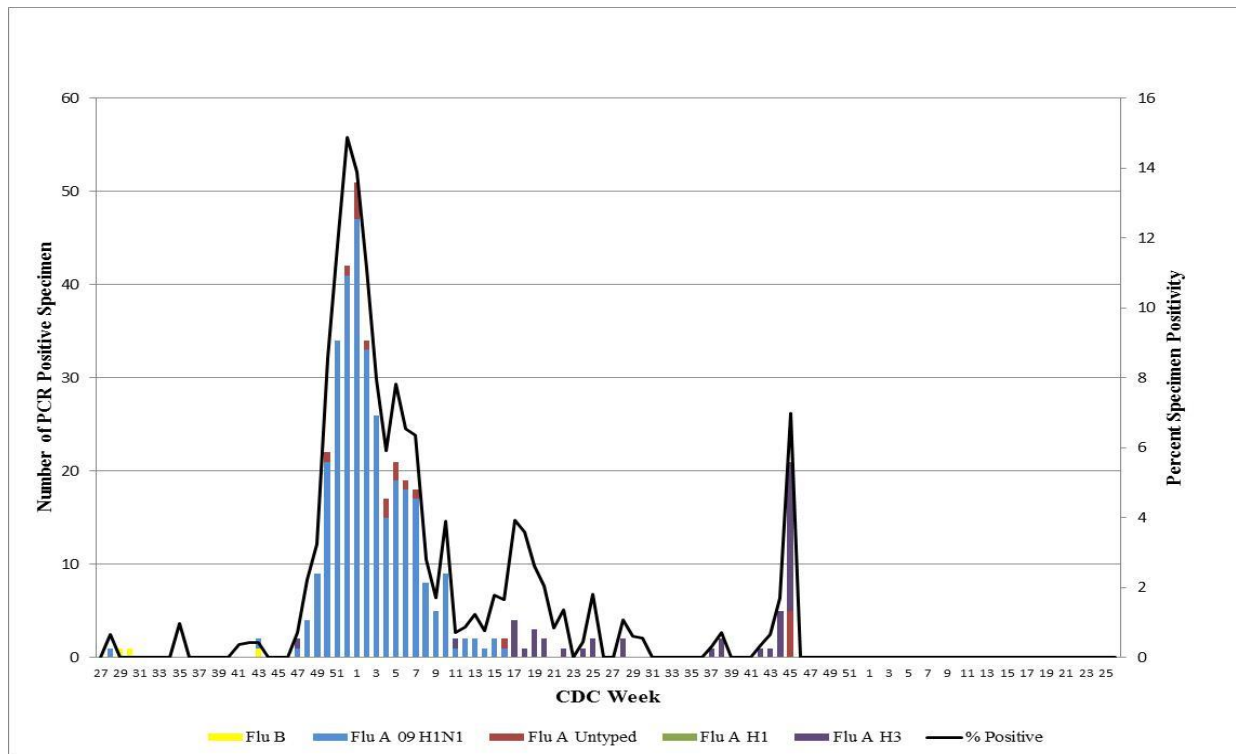
**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending November 8, 2014 (Week 45)



**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) Influenza Test by CDC Week**

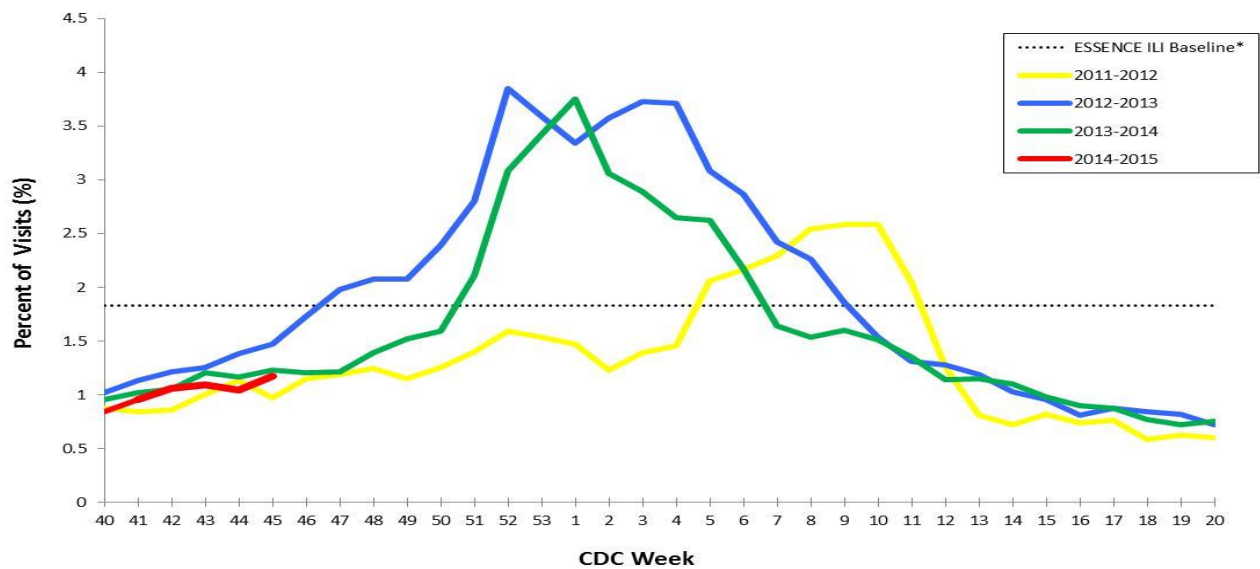


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

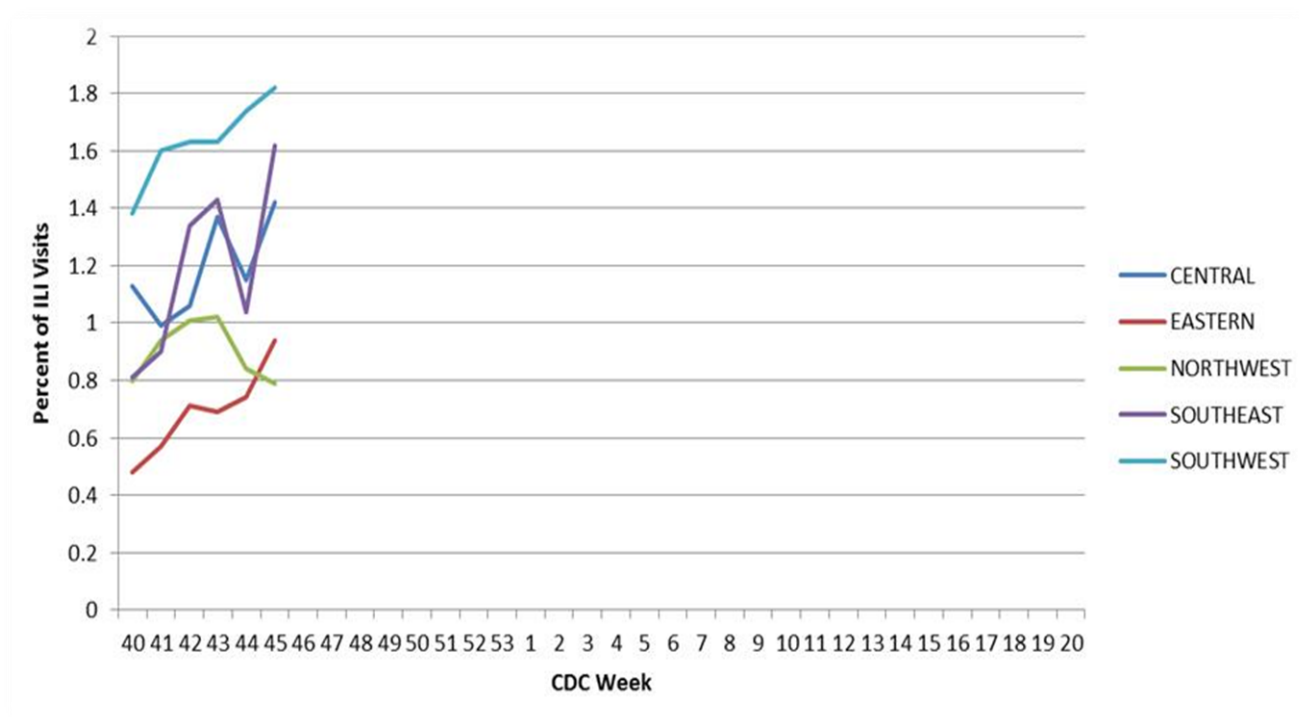


\*ESSENCE ILI Baseline is the mean of the values during previous influenza seasons (week 40-20, 2006-07, 2008-09 and 2010-2011) when influenza activity was low.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 45 (November 2 – November 8, 2014)**

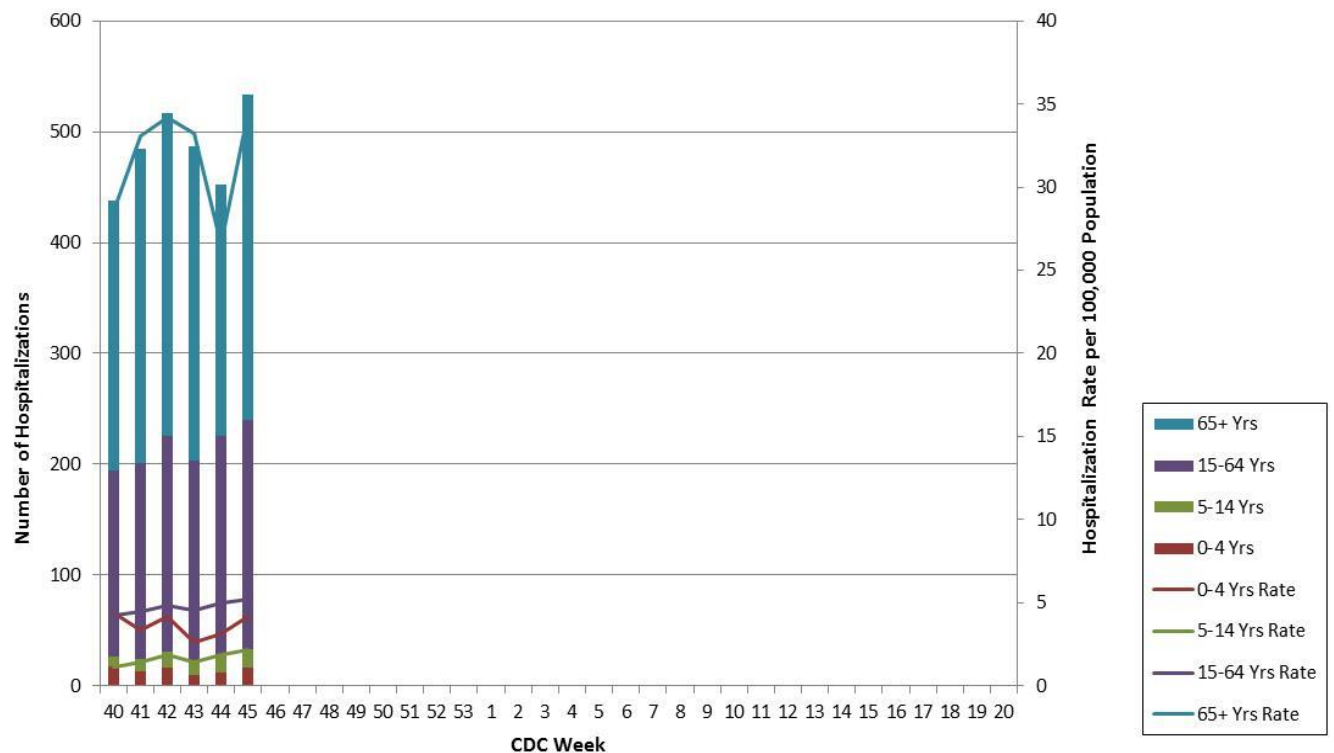
District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	2.0%	1.2%	0.9%	0.3%	0.4%	0.8%
Central	5.2%	3.0%	1.0%	0.6%	0.7%	1.4%
Eastern	1.4 %	1.6%	1.1%	0.6%	0.3%	0.9%
Southeast	4.7%	4.8%	1.3%	0.8%	0.3%	1.6%
Southwest	6.2%	5.9 %	1.1%	0.7%	0.3%	1.8%
Statewide	<b>3.0%</b>	<b>2.7%</b>	<b>1.0%</b>	<b>0.5%</b>	<b>0.4 %</b>	<b>1.2%</b>

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



\*2014-2015 Season-to-Date through the week ending November 8, 2014 (Week 45)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



\*2014-2015 Season-to-Date through the week ending November 8, 2014 (Week 45)

Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 46: November 9 – November 15, 2014

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri is Sporadic<sup>2</sup>.
- No laboratory-confirmed cases were reported for week 46. A season-to-date total of 288 influenza cases have been reported in Missouri.
- Influenza-like illness activity continues to remain below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 1.53% and 1.3% through ILINet and ESSENCE respectively<sup>3</sup>.
- No outbreaks of influenza or ILI were reported during Week 46 in Missouri. No ILI-associated school closures were reported during Week 46.
- No influenza-associated pediatric deaths have been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records increased to 102 deaths during Week 45, resulting in a season-to-date total of 434 P&I associated deaths in Missouri<sup>4</sup>.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

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<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Sporadic Activity is defined as: influenza-like illness activity has not increased and there are isolated lab-confirmed cases or a lab-confirmed outbreak in a single institution in the state. The influenza activity reported by state and territorial epidemiologists indicates geographic spread of influenza viruses, but does not measure the severity of influenza activity. Influenza activity is reported to the Centers for Disease Control and Prevention each Wednesday during the influenza season.

<sup>3</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>4</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

**Table 1. Number of Laboratory-positive Influenza Cases by Influenza Type, Missouri, CDC Week 44-46 (October 26 – November 15, 2014)**

Influenza Type	Week 44	Week 45	Week 46	2014-2015 Season-to-Date*
Influenza A	32	32	77	199
Influenza B	7	10	5	81
Influenza Unknown Or Untyped	1	2	2	8
<b>Total</b>	<b>40</b>	<b>44</b>	<b>84</b>	<b>288</b>

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 46 (November 9 – November 15, 2014)**

Age Group	Week 46 Cases	Week 46 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
00-04	8	2	35	9
05-14	32	4	61	8
15-64	36	1	148	4
65+	8	1	44	5
<b>Total</b>	<b>84</b>	<b>1</b>	<b>288</b>	<b>5</b>

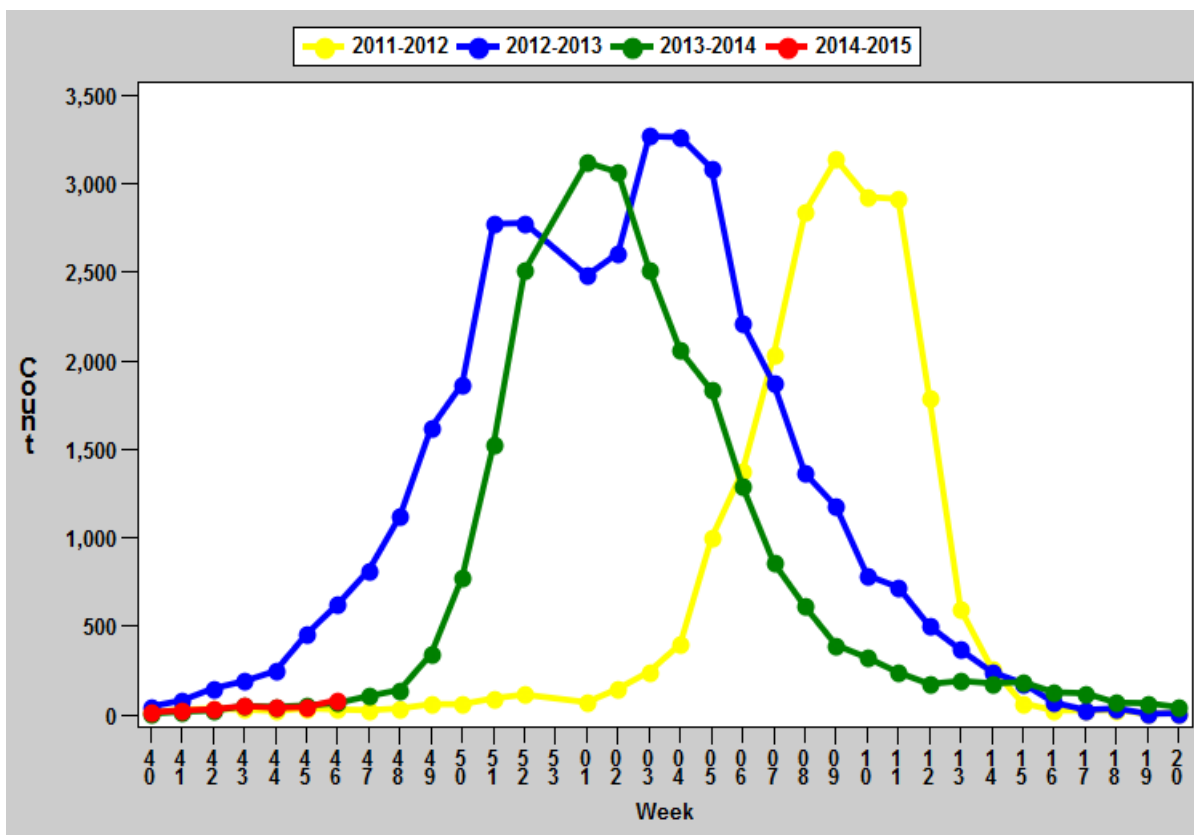
\*Incidence Rate per 100,000 population  
<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv)

**Table 3. Number of Laboratory-positive Influenza Cases and Case Rates by Region, Missouri, CDC Week 46 (November 9 – November 15, 2014)**

District	Week 46 Cases	Week 46 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
CE	5	1	31	5
EA	55	2	135	6
NW	14	1	90	6
SE	9	2	20	4
SW	1	0	12	1
<b>Total</b>	<b>84</b>	<b>1</b>	<b>288</b>	<b>5</b>

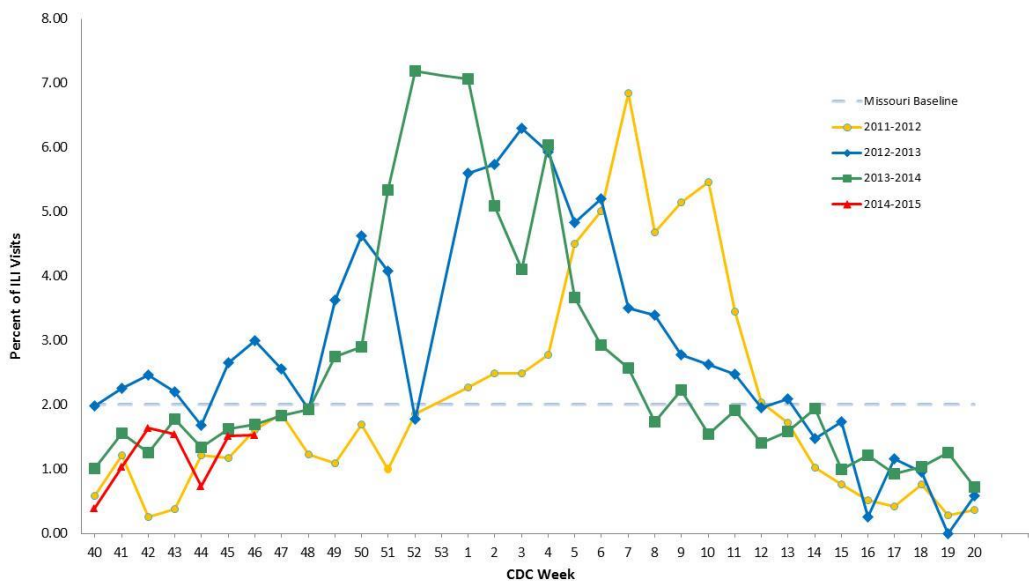
\*Incidence Rate per 100,000 population  
<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv)

**Graph 1. Number of Laboratory-positive Influenza Cases by CDC Week, Missouri, 2011-2015\***



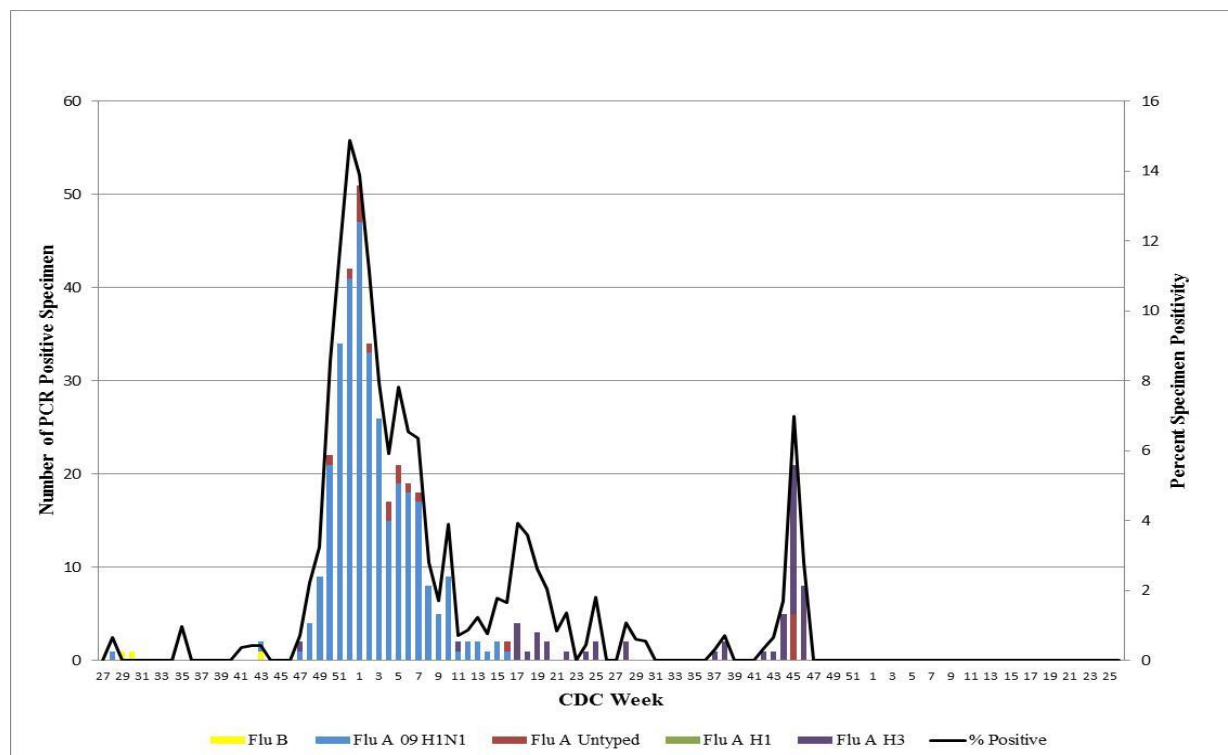
\*2014-2015 Season-to-Date through the week ending November 15, 2014 (Week 46)  
Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending November 15, 2014 (Week 46)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) Influenza Test by CDC Week**

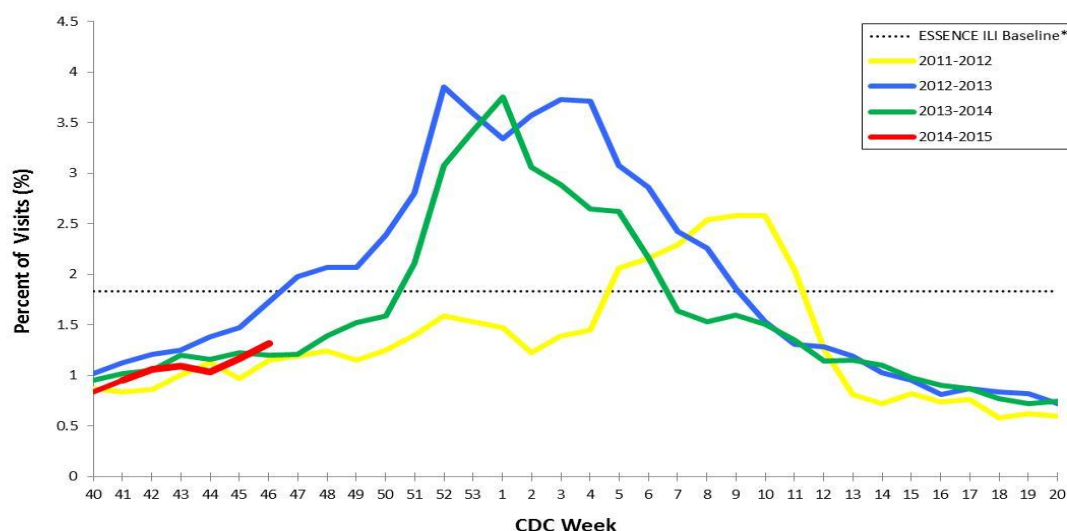


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*†Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



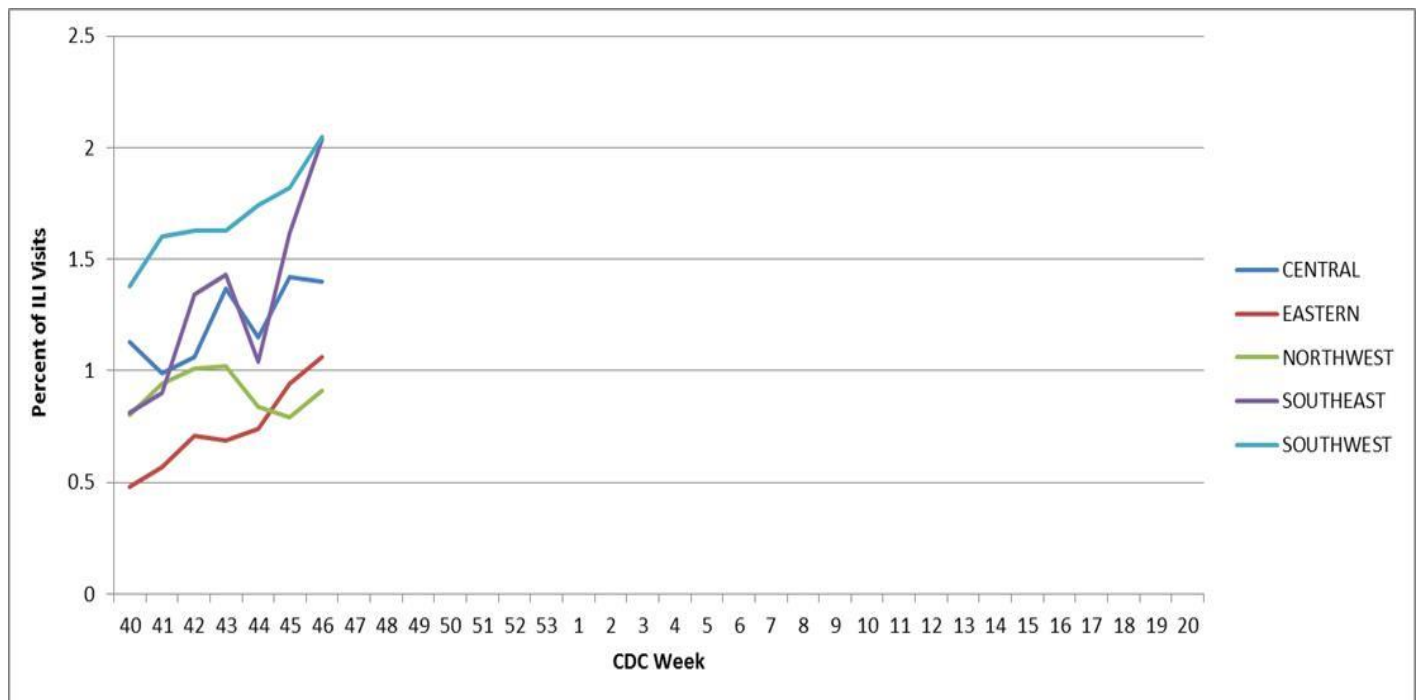
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

\*ESSENCE ILI Baseline is the mean of the values during previous influenza seasons (week 40-20, 2006-07, 2008-09 and 2010-2011) when influenza activity was low.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 46 (November 9 – November 15, 2014)**

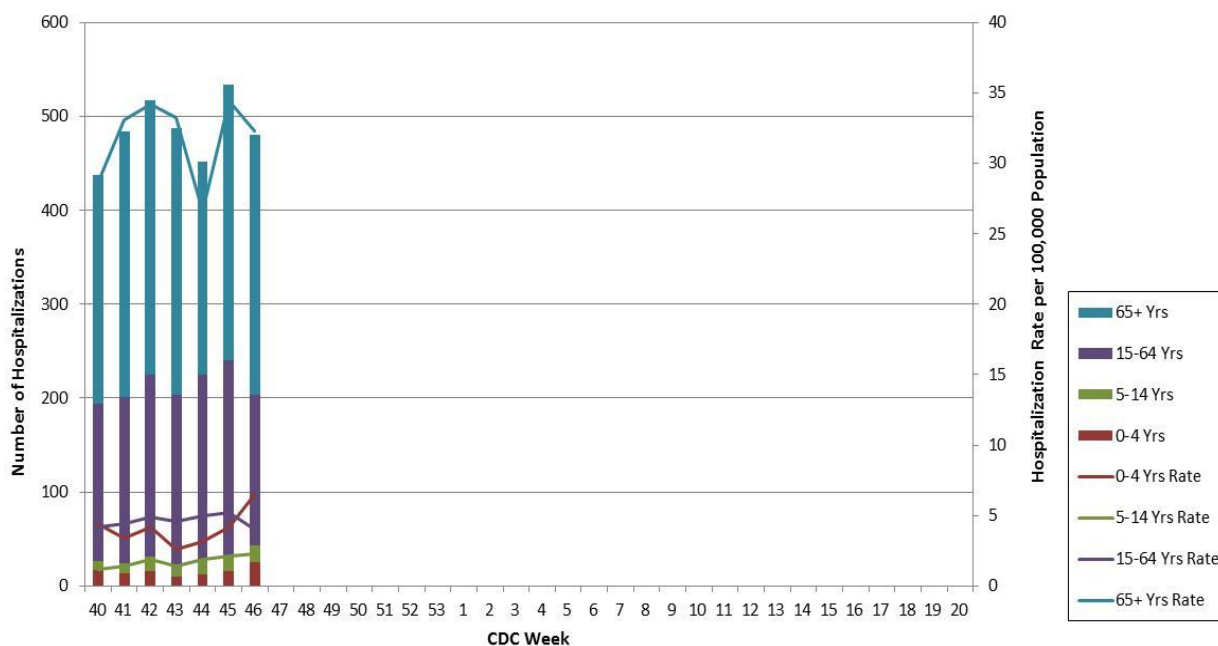
District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	1.9%	1.8%	0.7%	0.8%	0.3%	0.9%
Central	5.0%	2.9%	1.3%	0.4%	0.3%	1.4%
Eastern	1.6%	2.3%	1.0%	0.9%	0.4%	1.1%
Southeast	8.8%	6.8%	1.4%	0.0%	0.2%	2.0%
Southwest	7.4%	4.7 %	1.6%	0.6%	0.4%	2.1%
Statewide	<b>3.4%</b>	<b>3.1%</b>	<b>1.1%</b>	<b>0.7%</b>	<b>0.4 %</b>	<b>1.3%</b>

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



\*2014-2015 Season-to-Date through the week ending November 15, 2014 (Week 46)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



\*2014-2015 Season-to-Date through the week ending November 15, 2014 (Week 46)

Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).





# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 47: November 16 – November 22, 2014

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri is Local<sup>2</sup>.
- Two laboratory-confirmed cases were reported for week 47. A season-to-date total of 550 influenza cases have been reported in Missouri.
- Influenza-like illness activity continues to remain below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 1.23% and 1.5% through ILINet and ESSENCE respectively<sup>3</sup>.
- No outbreaks of influenza or ILI were reported during Week 47 in Missouri. No ILI-associated school closures were reported during Week 47.
- No influenza-associated pediatric deaths have been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 78 deaths during Week 46, resulting in a season-to-date total of 512 P&I associated deaths in Missouri<sup>4</sup>.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

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<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Local is defined as: Increased ILI in 1 region; ILI activity in other regions is not increased And recent (within the past 3 weeks) lab evidence of influenza in region with increased ILI. OR Two or more institutional outbreaks (ILI or lab confirmed) in 1 region; ILI activity in other regions is not increased And recent (within the past 3 weeks) lab evidence of influenza in region with the outbreak and virus activity is no greater than sporadic in other regions..

<sup>3</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>4</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

**Table 1. Number of Laboratory-positive Influenza Cases by Influenza Type, Missouri, CDC Week 45-47 (November 2 – November 22, 2014)**

Influenza Type	Week 45	Week 46	Week 47	2014-2015 Season-to-Date*
Influenza A	48	114	171	424
Influenza B	14	20	15	117
Influenza Unknown Or Untyped	2	2	1	9
<b>Total</b>	<b>64</b>	<b>136</b>	<b>187</b>	<b>550</b>

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 47 (November 16 – November 22, 2014)**

Age Group	Week 47 Cases	Week 47 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
00-04	41	11	86	23
05-14	67	9	145	18
15-64	68	2	256	6
65+	11	1	63	7
<b>Total</b>	<b>187</b>	<b>3</b>	<b>550</b>	<b>9</b>

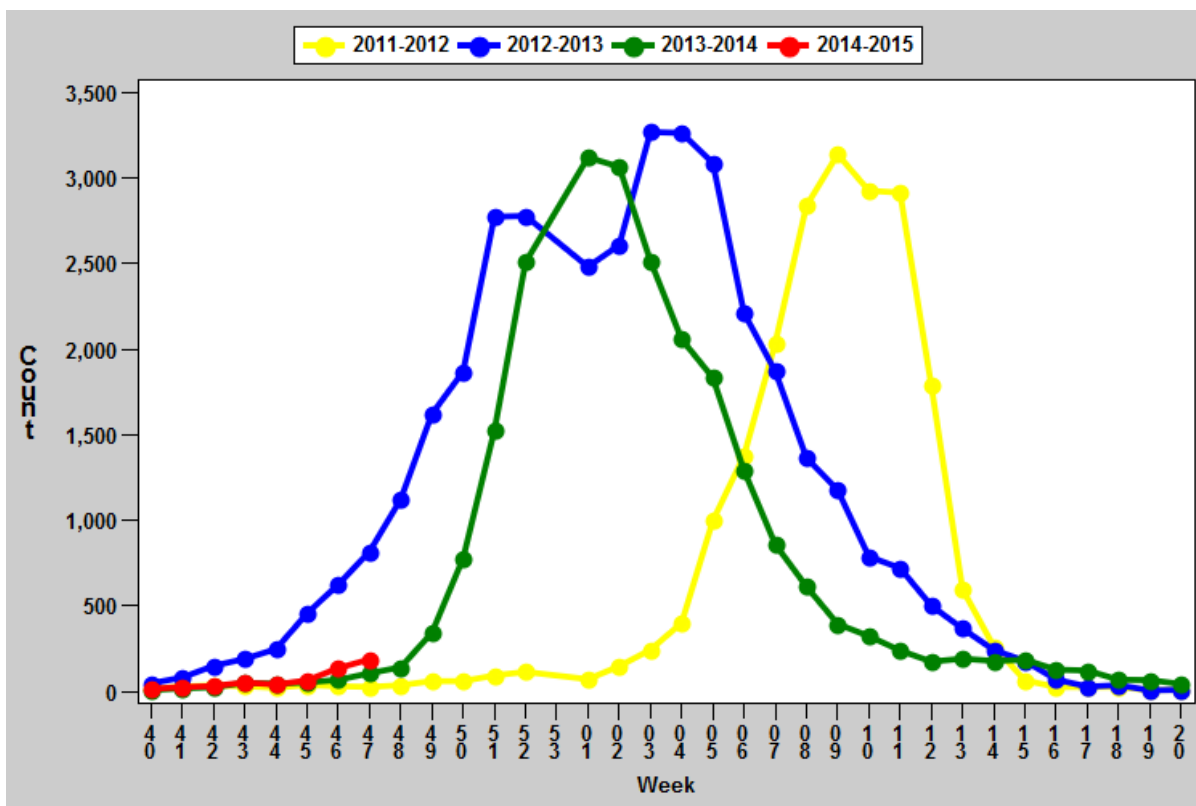
\*Incidence Rate per 100,000 population  
<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv)

**Table 3. Number of Laboratory-positive Influenza Cases and Case Rates by Region, Missouri, CDC Week 47 (November 16 – November 22, 2014)**

District	Week 47 Cases	Week 47 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
CE	9	1	73	11
EA	112	5	260	12
NW	17	1	128	8
SE	44	9	69	15
SW	5	0	20	2
<b>Total</b>	<b>187</b>	<b>3</b>	<b>550</b>	<b>9</b>

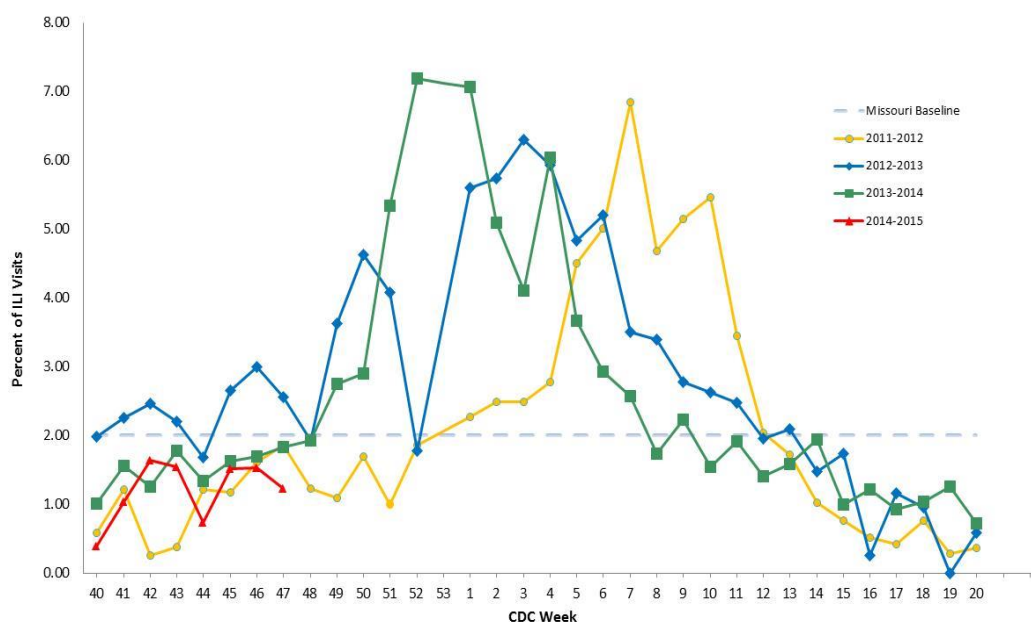
\*Incidence Rate per 100,000 population  
<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv)

**Graph 1. Number of Laboratory-positive Influenza Cases by CDC Week, Missouri, 2011-2015\***



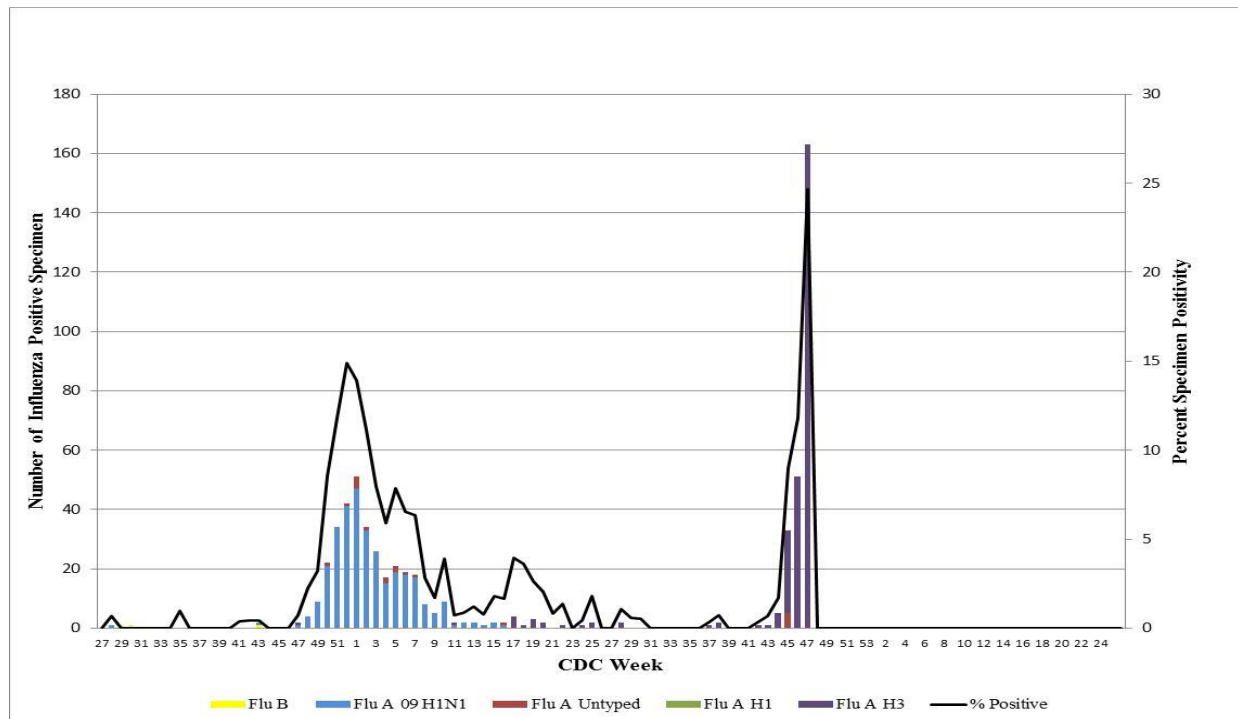
\*2014-2015 Season-to-Date through the week ending November 22, 2014 (Week 47)  
Data Source: Missouri Health Information Surveillance System (WebSur).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending November 22, 2014 (Week 47)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) Influenza Test by CDC Week**

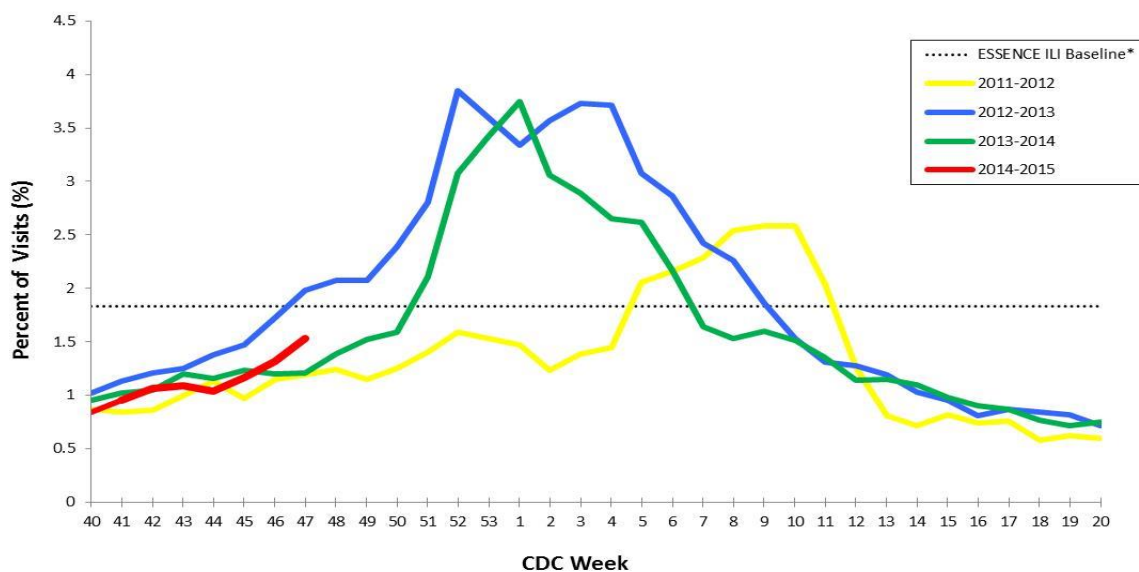


\*Data Source: St. Louis Children's Hospitals

\*†This data is based on testing in all age groups in St Louis metro and SE Missouri

\*†Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



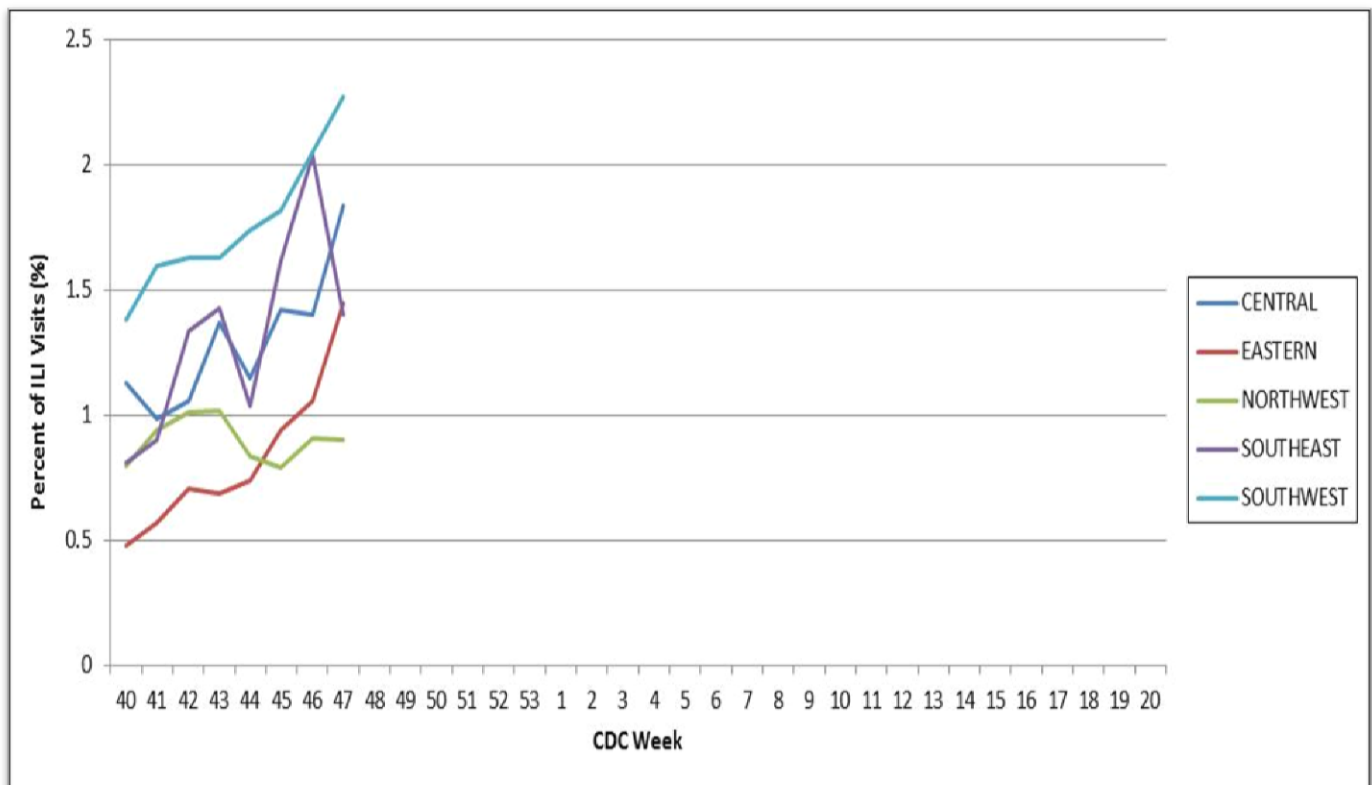
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

\*ESSENCE ILI Baseline is the mean of the values during previous influenza seasons (week 40-20, 2006-07, 2008-09 and 2010-2011) when influenza activity was low.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 47 (November 16 – November 22, 2014)**

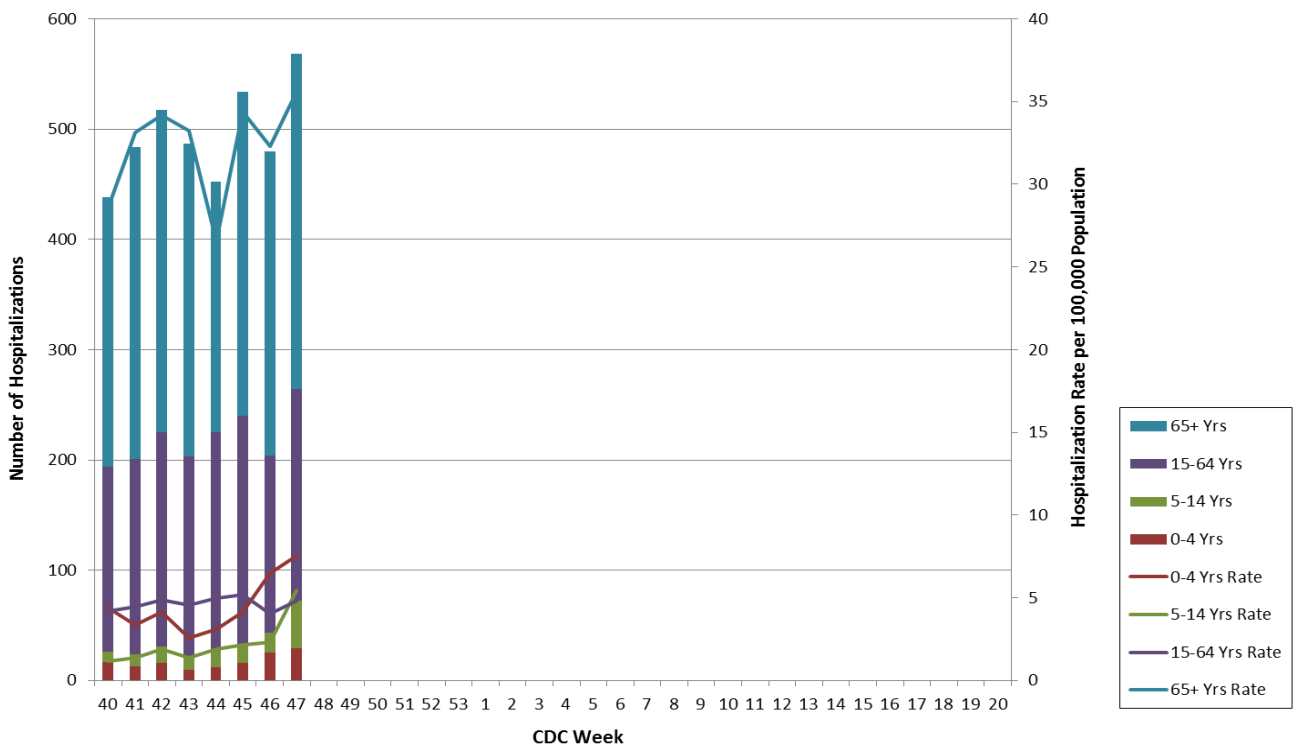
District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	1.1%	2.7%	0.7%	0.8%	0.2%	0.9%
Central	5.7%	2.9%	1.5%	1.5%	0.7%	1.8%
Eastern	1.7%	3.1%	1.6%	0.7%	0.5%	1.5%
Southeast	4.6%	5.9%	0.4%	1.1%	0.0%	1.4%
Southwest	8.5%	7.2%	1.0%	1.0%	0.4%	2.3%
Statewide	3.3%	4.0%	1.2%	0.9%	0.4 %	1.5%

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



\*2014-2015 Season-to-Date through the week ending November 22, 2014 (Week 47)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



\*2014-2015 Season-to-Date through the week ending November 22, 2014 (Week 47)

Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 48: November 23 – November 29, 2014

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri is Local<sup>2</sup>.
- Two laboratory-confirmed cases, including one influenza A (H3) and one influenza B, were reported from the State Public Health Laboratory during week 48. A season-to-date total of 1,104 influenza cases have been reported in Missouri.
- Influenza-like illness activity is above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 2.97% and 2.1% through ILINet and ESSENCE respectively<sup>3</sup>.
- No confirmed outbreaks of influenza or ILI were reported during Week 48 in Missouri. No ILI-associated school closures were reported during Week 48.
- No influenza-associated pediatric deaths have been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 64 deaths during Week 47, resulting in a season-to-date total of 576 P&I associated deaths in Missouri<sup>4</sup>.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

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<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Local is defined as: Increased ILI in 1 region; ILI activity in other regions is not increased And recent (within the past 3 weeks) lab evidence of influenza in region with increased ILI. OR Two or more institutional outbreaks (ILI or lab confirmed) in 1 region; ILI activity in other regions is not increased And recent (within the past 3 weeks) lab evidence of influenza in region with the outbreak and virus activity is no greater than sporadic in other regions..

<sup>3</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>4</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

**Table 1. Number of Laboratory-positive Influenza Cases by Influenza Type, Missouri, CDC Week 46-48 (November 9 – November 29, 2014)**

Influenza Type	Week 46	Week 47	Week 48	2014-2015 Season-to-Date*
Influenza A	130	378	281	931
Influenza B	24	36	16	159
Influenza Unknown Or Untyped	2	3	3	14
<b>Total</b>	<b>156</b>	<b>417</b>	<b>300</b>	<b>1,104</b>

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 48 (November 23 – November 29, 2014)**

Age Group	Week 48 Cases	Week 48 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
00-04	41	11	168	44
05-14	117	15	366	47
15-64	121	3	470	12
65+	21	2	100	11
<b>Total</b>	<b>300</b>	<b>5</b>	<b>1,104</b>	<b>18</b>

\*Incidence Rate per 100,000 population  
<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv)

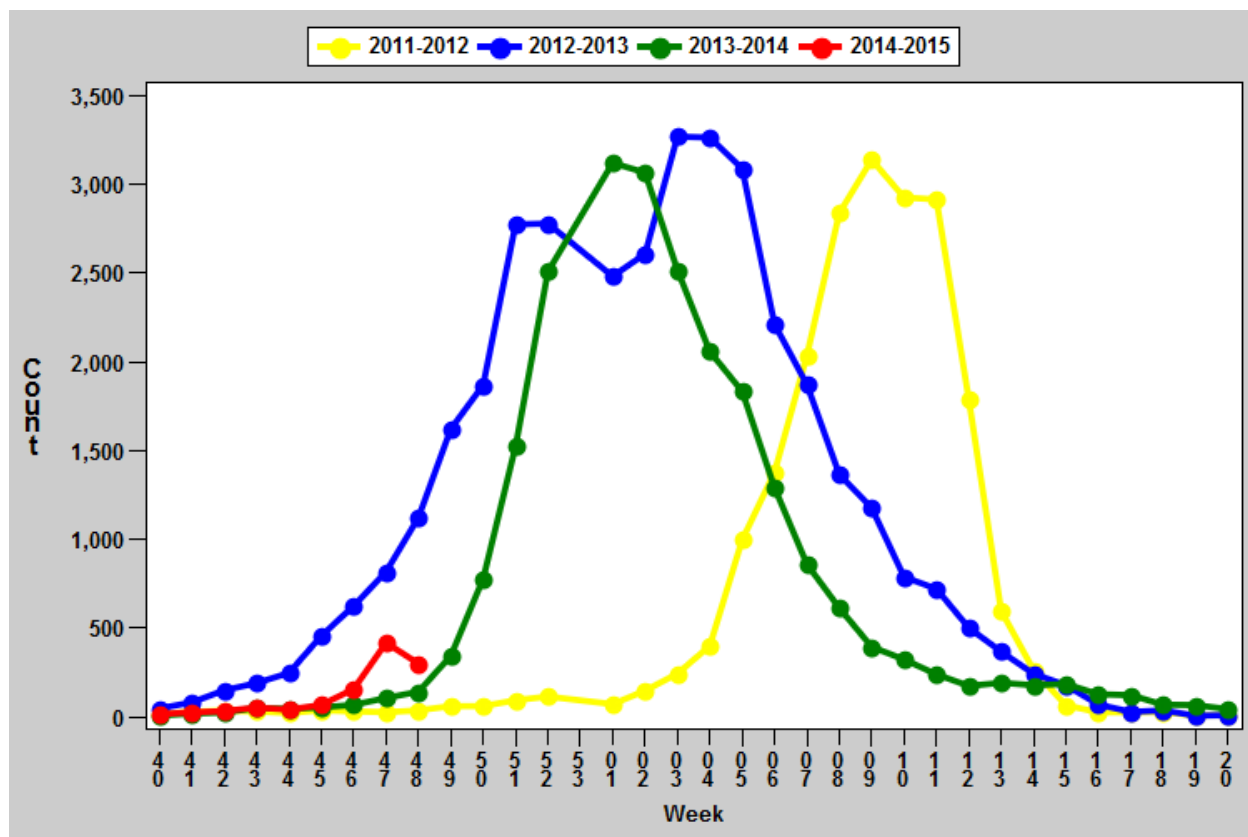
**Table 3. Number of Laboratory-positive Influenza Cases and Case Rates by Region, Missouri, CDC Week 48 (November 23 – November 29, 2014)**

District	Week 48 Cases	Week 48 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
CE	42	6	214	32
EA	173	8	482	22
NW	33	2	241	15
SE	46	10	130	27
SW	6	1	37	4
<b>Total</b>	<b>300</b>	<b>5</b>	<b>1,104</b>	<b>18</b>

\*Incidence Rate per 100,000 population  
<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv)

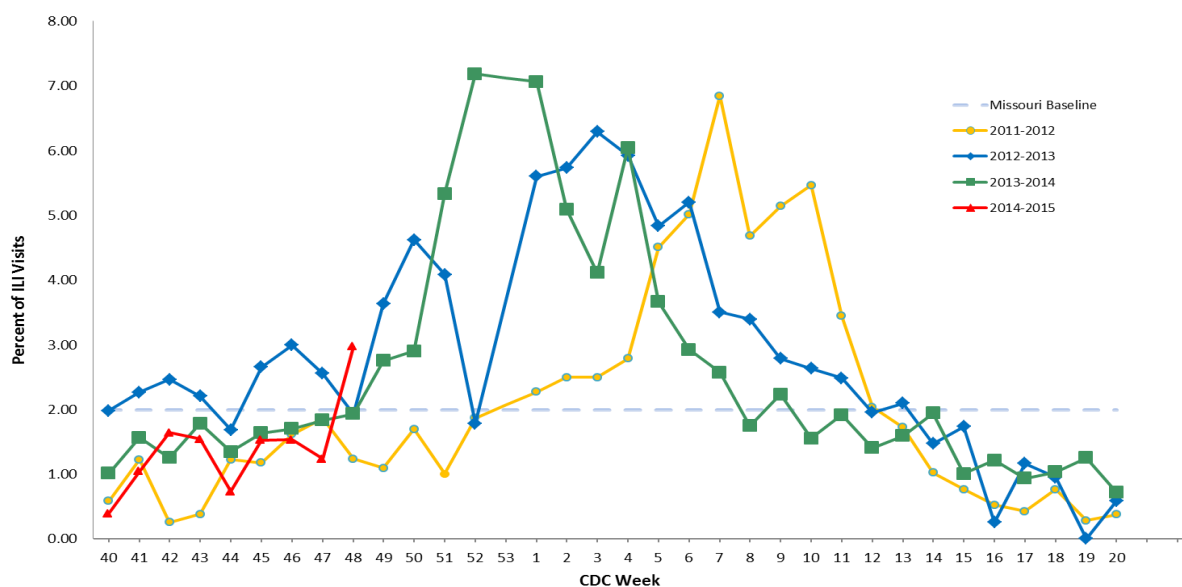


**Graph 1. Number of Laboratory-positive Influenza Cases by CDC Week, Missouri, 2011-2015\***



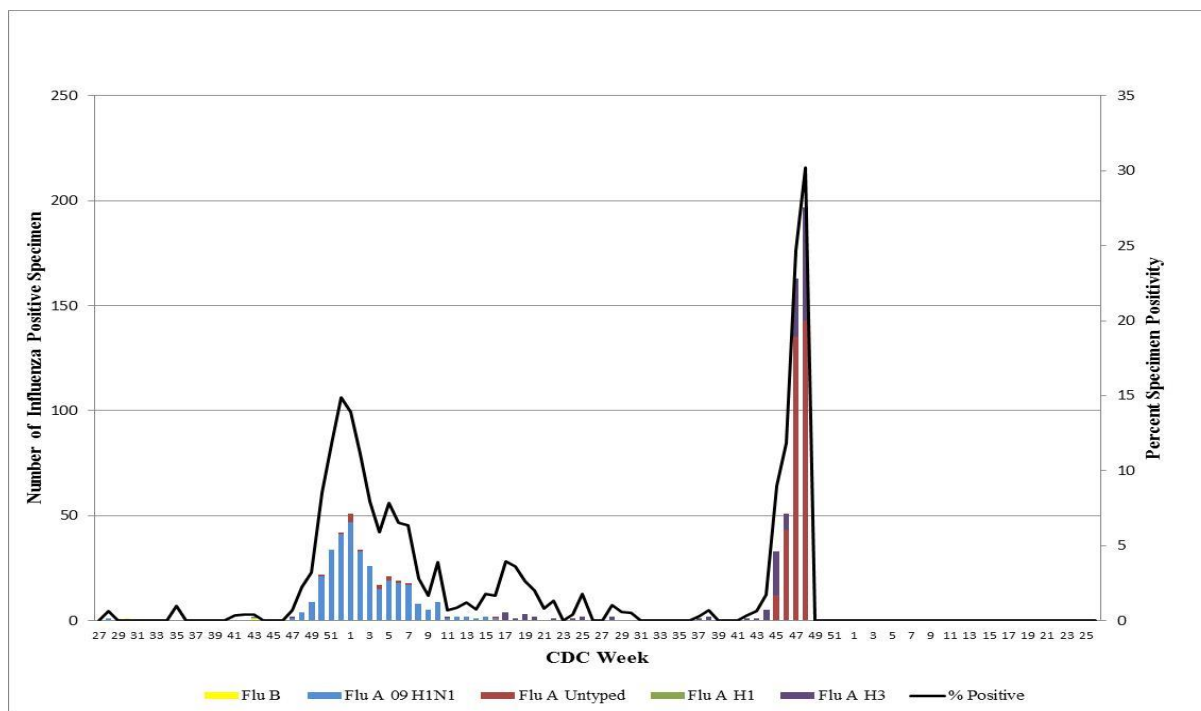
\*2014-2015 Season-to-Date through the week ending November 29, 2014 (Week 48)  
Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending November 29, 2014 (Week 48)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) Influenza Test by CDC Week**

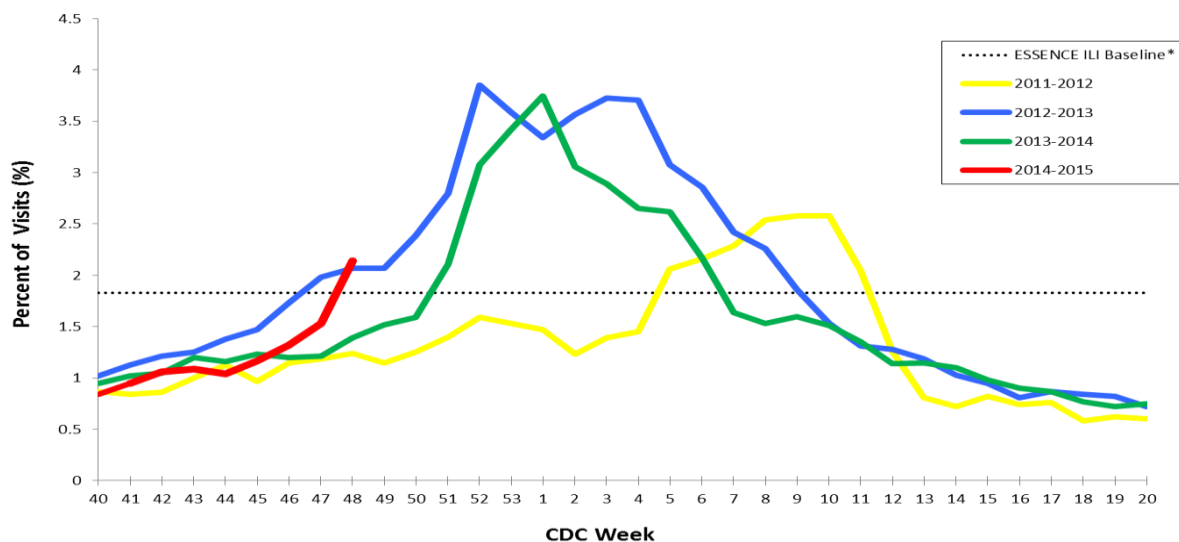


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*†Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



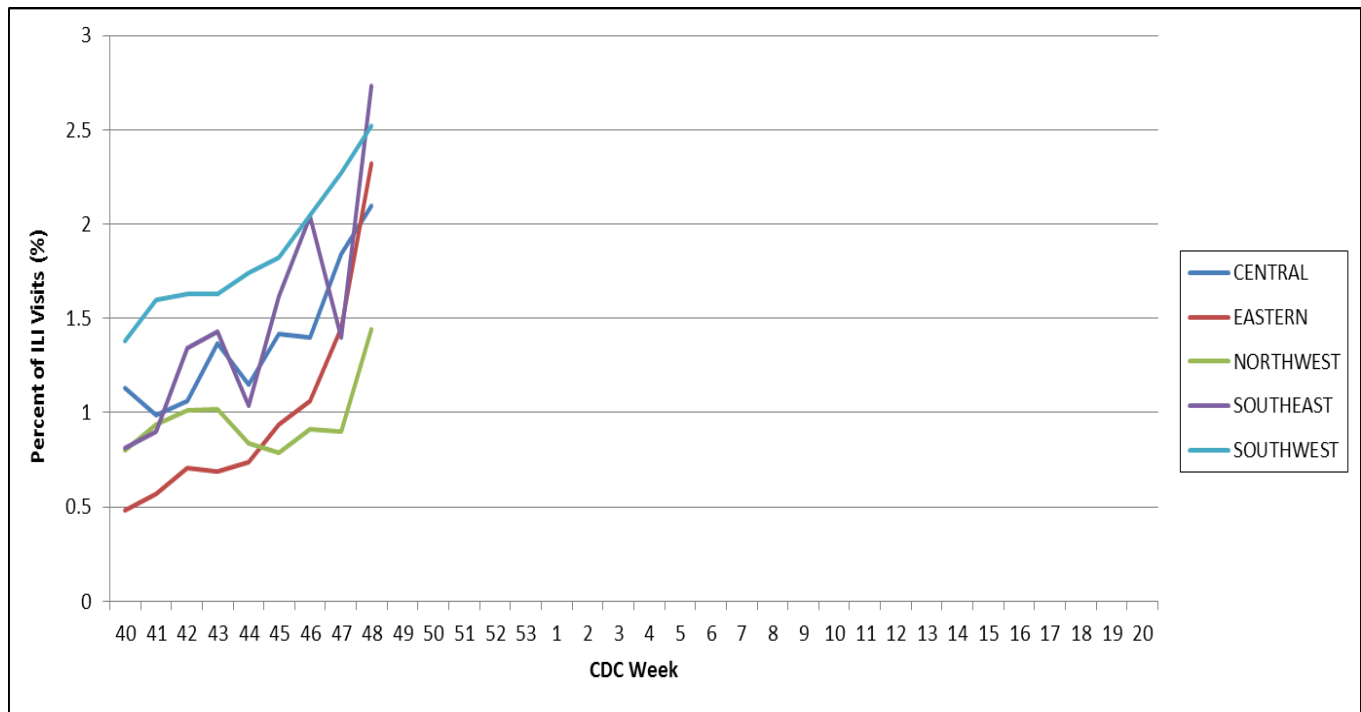
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

\*ESSENCE ILI Baseline is the mean of the values during previous influenza seasons (week 40-20, 2006-07, 2008-09 and 2010-2011) when influenza activity was low.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 48 (November 23 – November 29, 2014)**

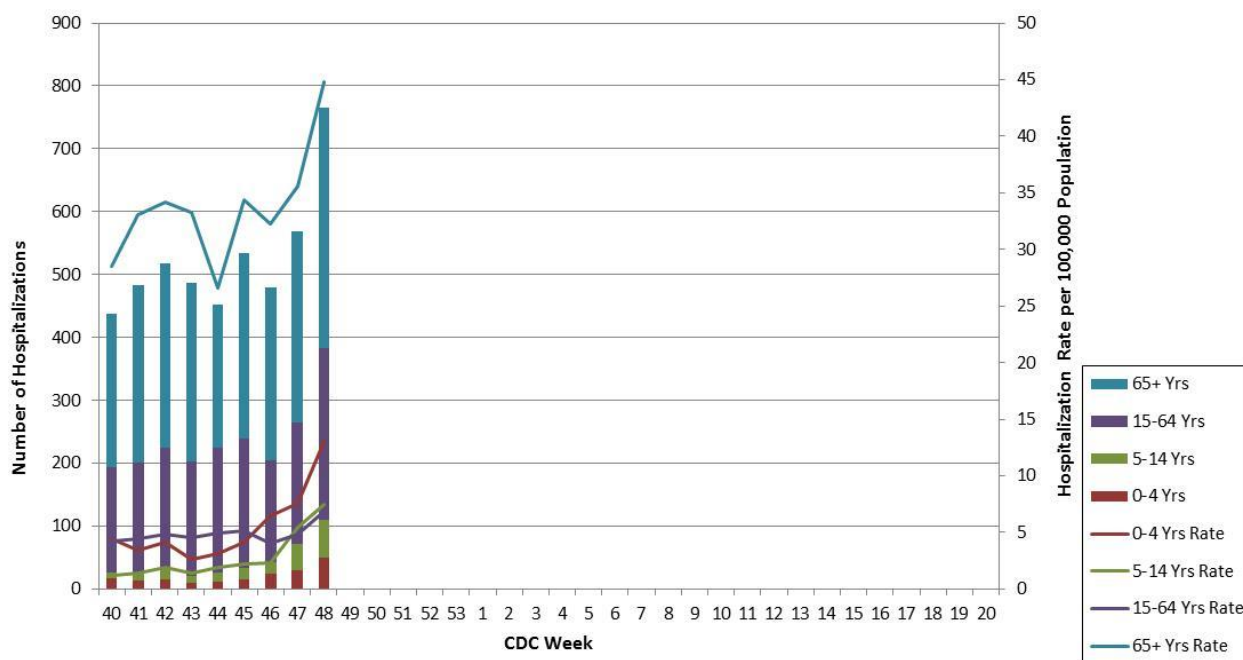
District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	2.5%	3.5%	1.2%	1%	0.5%	1.4%
Central	6.6%	5.7%	1.1%	1.7%	0.3%	2.1%
Eastern	3%	5.3%	2.1%	1.5%	1.1%	2.3%
Southeast	7.6%	11.1%	1.6%	1%	0.2%	2.7%
Southwest	8.4%	8%	1.4%	1.1%	0.4%	2.5%
Statewide	4.4%	5.7%	1.6%	1.3%	0.7%	2.1%

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



\*2014-2015 Season-to-Date through the week ending November 29, 2014 (Week 48)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



\*2014-2015 Season-to-Date through the week ending November 29, 2014 (Week 48)

Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 49: November 30 – December 6, 2014

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri is Regional<sup>2</sup>.
- Eleven laboratory-confirmed cases, including ten influenza A (H3) and one influenza B, were reported from the State Public Health Laboratory during week 49. A season-to-date total of 3,318 influenza cases have been reported in Missouri.
- Influenza-like illness activity is above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 2.88% and 2.3% through ILINet and ESSENCE respectively<sup>3</sup>.
- No confirmed outbreaks of influenza or ILI were reported during Week 49 in Missouri. No ILI-associated school closures were reported during Week 49.
- No influenza-associated pediatric deaths have been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 46 deaths during Week 48, resulting in a season-to-date total of 622 P&I associated deaths in Missouri<sup>4</sup>.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

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<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Regional is defined as: Increased ILI in at least 2 regions but less than half of the regions, AND recent (within the past 3 weeks) lab confirmed influenza in the affected regions. OR Institutional outbreaks (ILI or lab confirmed) in at least 2 regions, but fewer than half of the regions, AND recent lab confirmed influenza in the affected regions.

<sup>3</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>4</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

**Table 1. Number of Laboratory-positive Influenza Cases by Influenza Type, Missouri, CDC Week 47-49 (November 16 – December 6, 2014)**

Influenza Type	Week 47	Week 48	Week 49	2014-2015 Season-to-Date*
Influenza A	415	961	1,393	3,049
Influenza B	43	29	42	226
Influenza Unknown Or Untyped	3	5	27	43
<b>Total</b>	<b>461</b>	<b>995</b>	<b>1,462</b>	<b>3,318</b>

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 49 (November 30 – December 6, 2014)**

Age Group	Week 49 Cases	Week 49 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
00-04	339	89	660	174
05-14	487	62	1,161	148
15-64	497	13	1,190	30
65+	139	16	307	35
<b>Total</b>	<b>1,462</b>	<b>24</b>	<b>3,318</b>	<b>55</b>

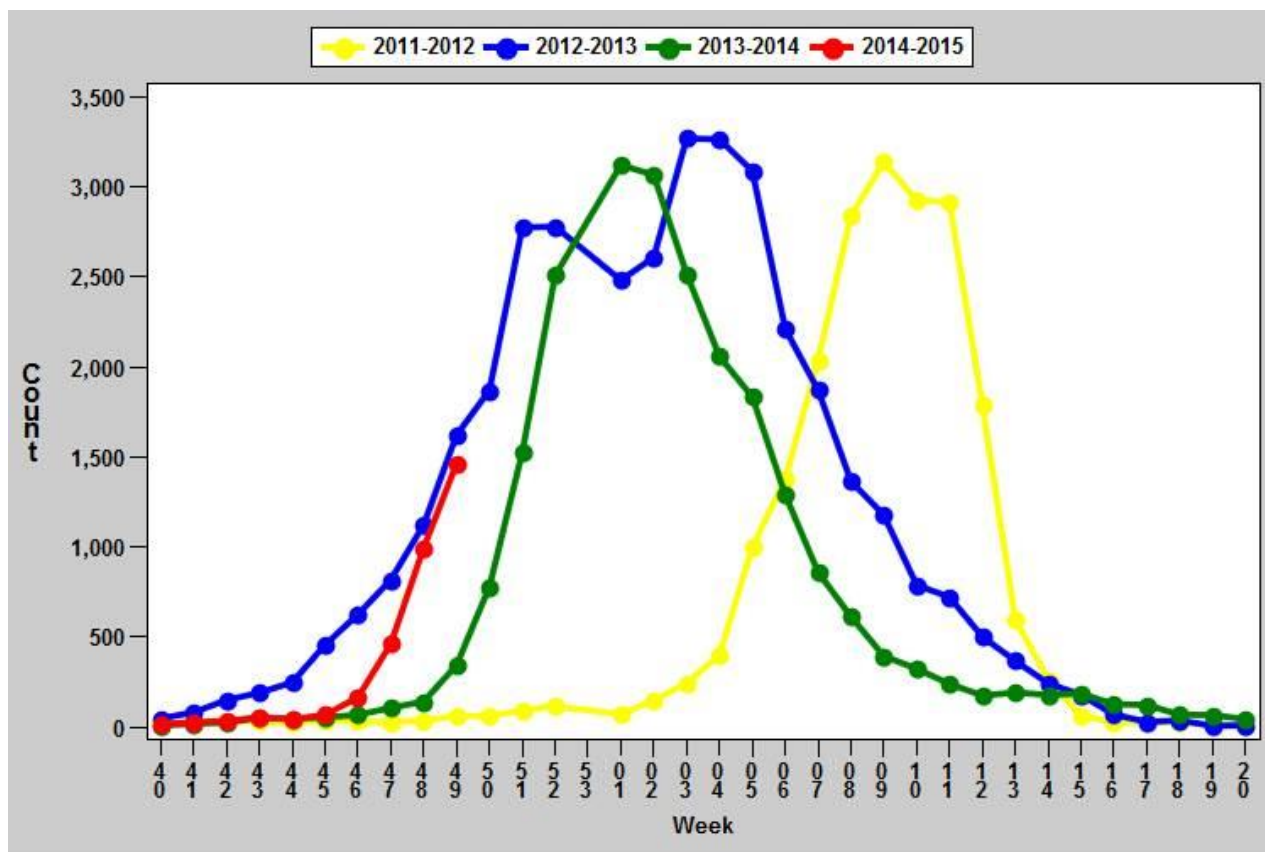
\*Incidence Rate per 100,000 population  
<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv)

**Table 3. Number of Laboratory-positive Influenza Cases and Case Rates by Region, Missouri, CDC Week 49 (November 30 – December 6, 2014)**

District	Week 49 Cases	Week 49 Rate*	2014-2015 <sup>†</sup> Season-to-Date	2014-2015 <sup>†</sup> Season-to-Date Rate*
CE	67	10	494	74
EA	1,001	45	1,850	83
NW	249	16	559	35
SE	120	25	314	66
SW	25	2	101	10
<b>Total</b>	<b>1,462</b>	<b>24</b>	<b>3,318</b>	<b>55</b>

\*Incidence Rate per 100,000 population  
<sup>†</sup>Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)  
Data Source: Missouri Health Information Surveillance System (WebSurv)

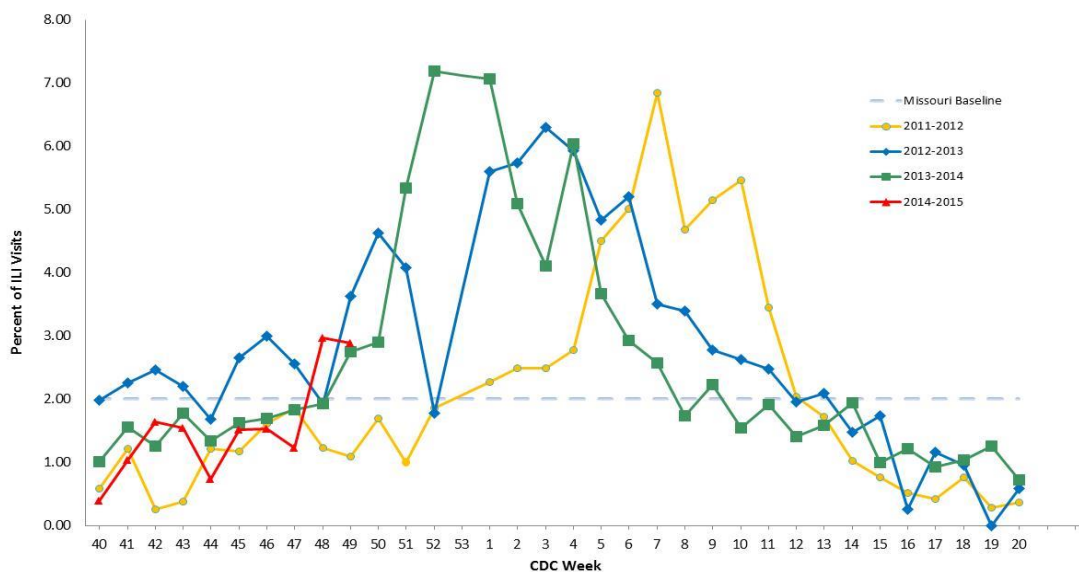
**Graph 1. Number of Laboratory-positive Influenza Cases by CDC Week, Missouri, 2011-2015\***



\*2014-2015 Season-to-Date through the week ending December 6, 2014 (Week 49)

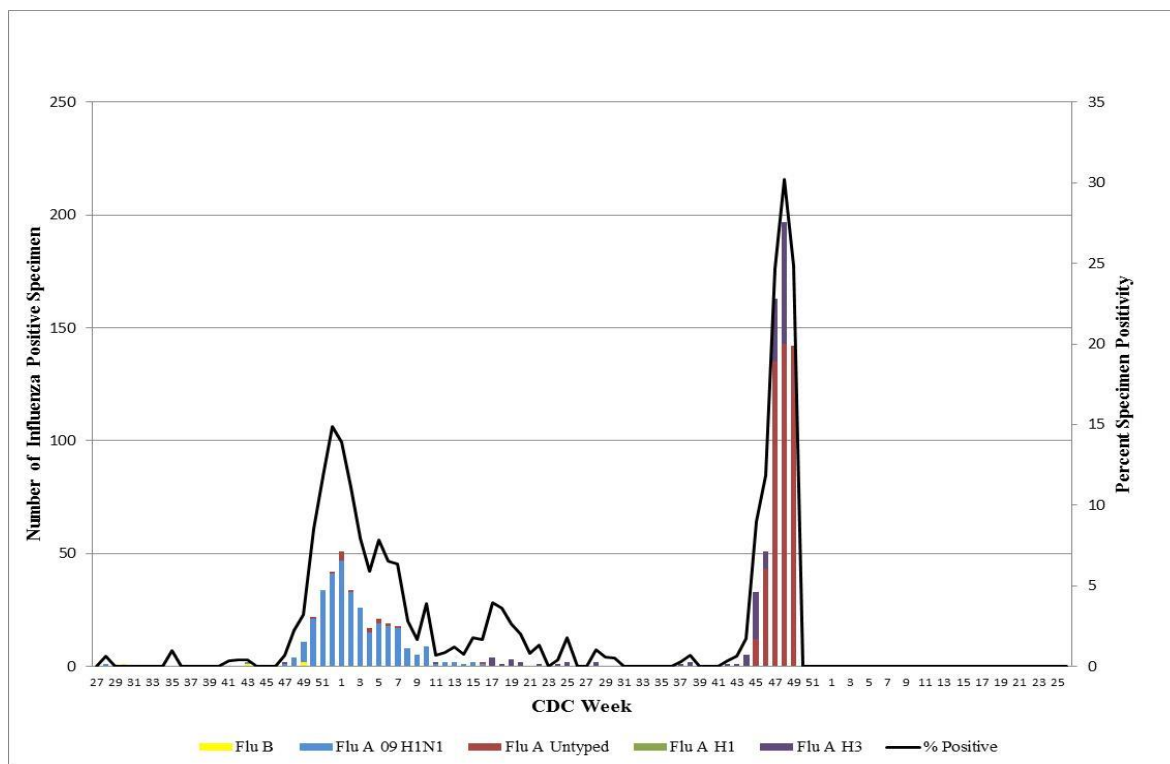
Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending December 6, 2014 (Week 49)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) Influenza Test by CDC Week**

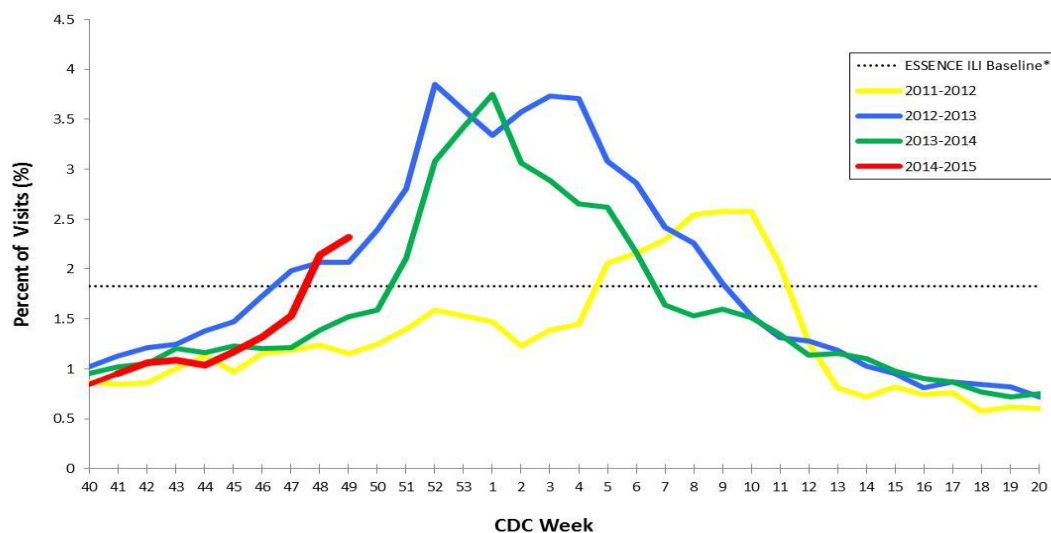


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*†Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

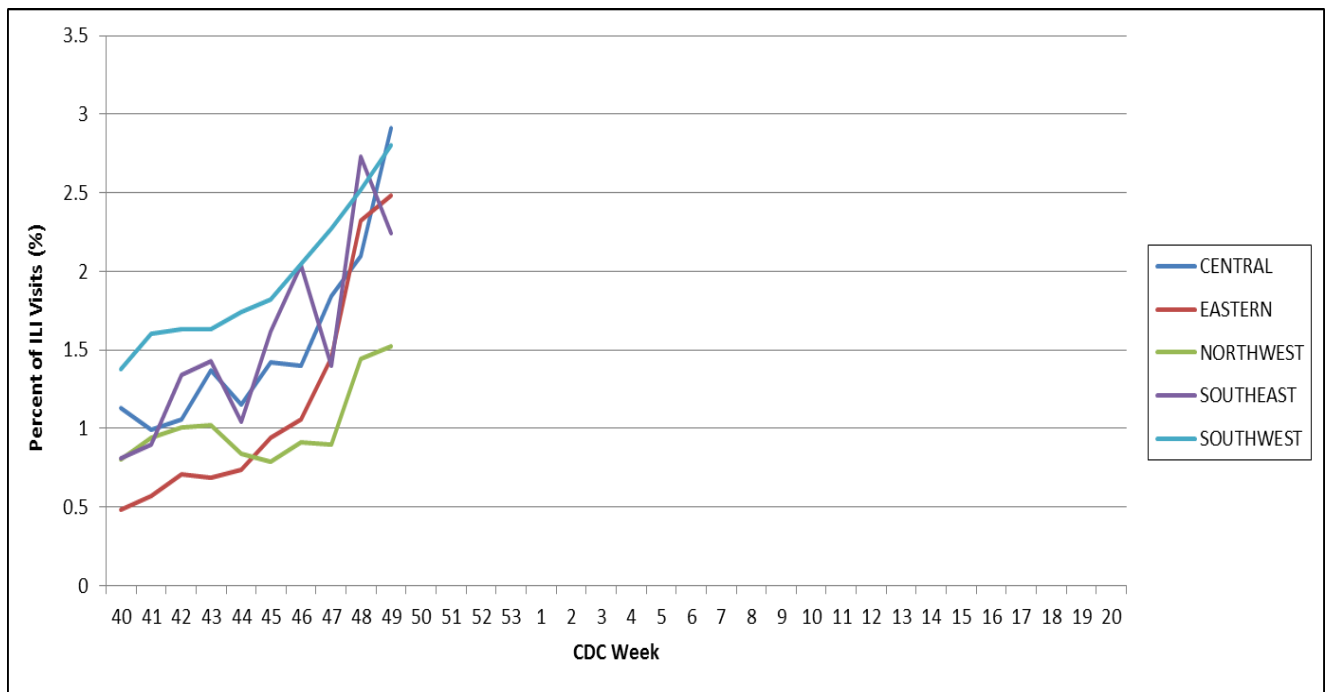
\*ESSENCE ILI Baseline is the mean of the values during previous influenza seasons (week 40-20, 2006-07, 2008-09 and 2010-2011) when influenza activity was low.



**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 49 (November 30 – December 6, 2014)**

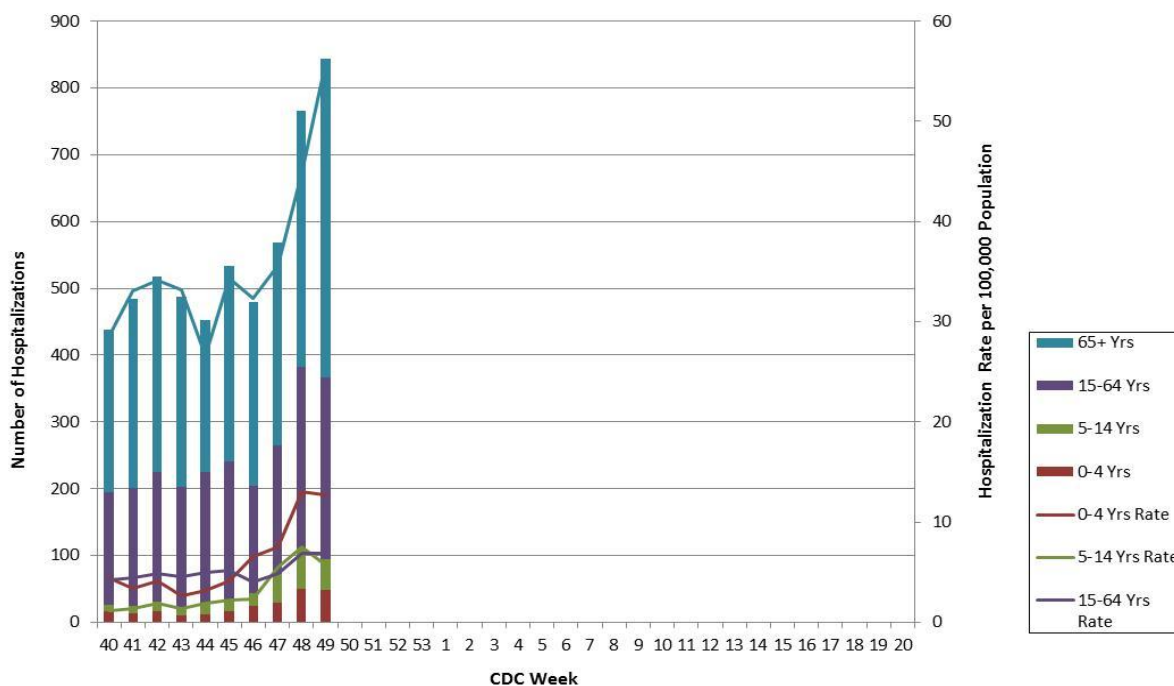
District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	2.1%	3.5%	1.4%	0.9%	0.9%	1.5%
Central	6.3%	6.6%	2.1%	2.2%	1.4%	2.9%
Eastern	3.2%	4.4%	2.6%	2.0%	1.3%	2.5%
Southeast	8.0%	3.9%	1.4%	1.1%	1.6%	2.2%
Southwest	8.4%	7.7%	1.8%	0.9%	1.3%	2.8%
Statewide	4.3%	5.1%	2.0%	1.5%	1.2%	2.3%

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



\*2014-2015 Season-to-Date through the week ending December 6, 2014 (Week 49)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



\*2014-2015 Season-to-Date through the week ending December 6, 2014 (Week 49)

Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 98 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 50: December 7 – December 13, 2014

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri increased to Widespread<sup>2</sup>.
- A season-to-date total of 7,498 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A continued to be the predominant influenza type accounting for 94.9% of reported cases during Week 50. All 11 of the laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 50 were influenza A (H3).
- CDC has antigenically characterized four influenza isolates so far this influenza season from Missouri: three were influenza A (H3N2) A/TEXAS/50/2012-like and one was influenza A H3N2 virus antigenically similar to the A/Switzerland/9715293/2013. Influenza A/TEXAS/50/2012 is included in the 2014-2015 influenza vaccine for the Northern Hemisphere. A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus. The CDC reports 67.5% of viruses collected from U.S. laboratories from October 1, 2014 – December 6, 2014, were antigenically different (drifted) from the influenza A H3N2 component of the 2014-2015 influenza vaccine. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 6.78% and 3.4% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rates of laboratory-positive influenza cases among children aged 0-4 years (110 cases per 100,000 population) and children aged 5-14 years (109 cases per 100,000 population). No influenza-associated pediatric deaths have been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records increased to 111 deaths during Week 49, resulting in a season-to-date total of 733 P&I associated deaths in Missouri<sup>5</sup>.
- Four outbreaks of influenza or ILI were reported during Week 50 in Missouri. Three ILI-associated school closures were reported during Week 50.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Widespread is defined as: Increased ILI and/or institutional outbreaks (ILI or lab confirmed) in at least half of the regions AND recent (within the past 3 weeks) lab confirmed influenza in the state.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=b7bdffcf668d44698ebfc3923e7dc8ea>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 50
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 48-50 (November 23 – December 13, 2014)**

Influenza Type	Week 48	Week 49	Week 50	2014-2015* Season-to-Date
Influenza A	1,239	2,609	2,402	6,971
Influenza B	47	122	95	425
Influenza Unknown Or Untyped	7	49	35	102
Total	1,293	2,780	2,532	7,498

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 50 (December 7 – December 13, 2014)**

Age Group	Week 50 Cases	Week 50 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	418	110	1,408	371
05-14	855	109	2,630	335
15-64	950	24	2,735	69
65+	309	35	725	82
Total	2,532	42	7,498	125

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 50 (December 7 – December 13, 2014)**

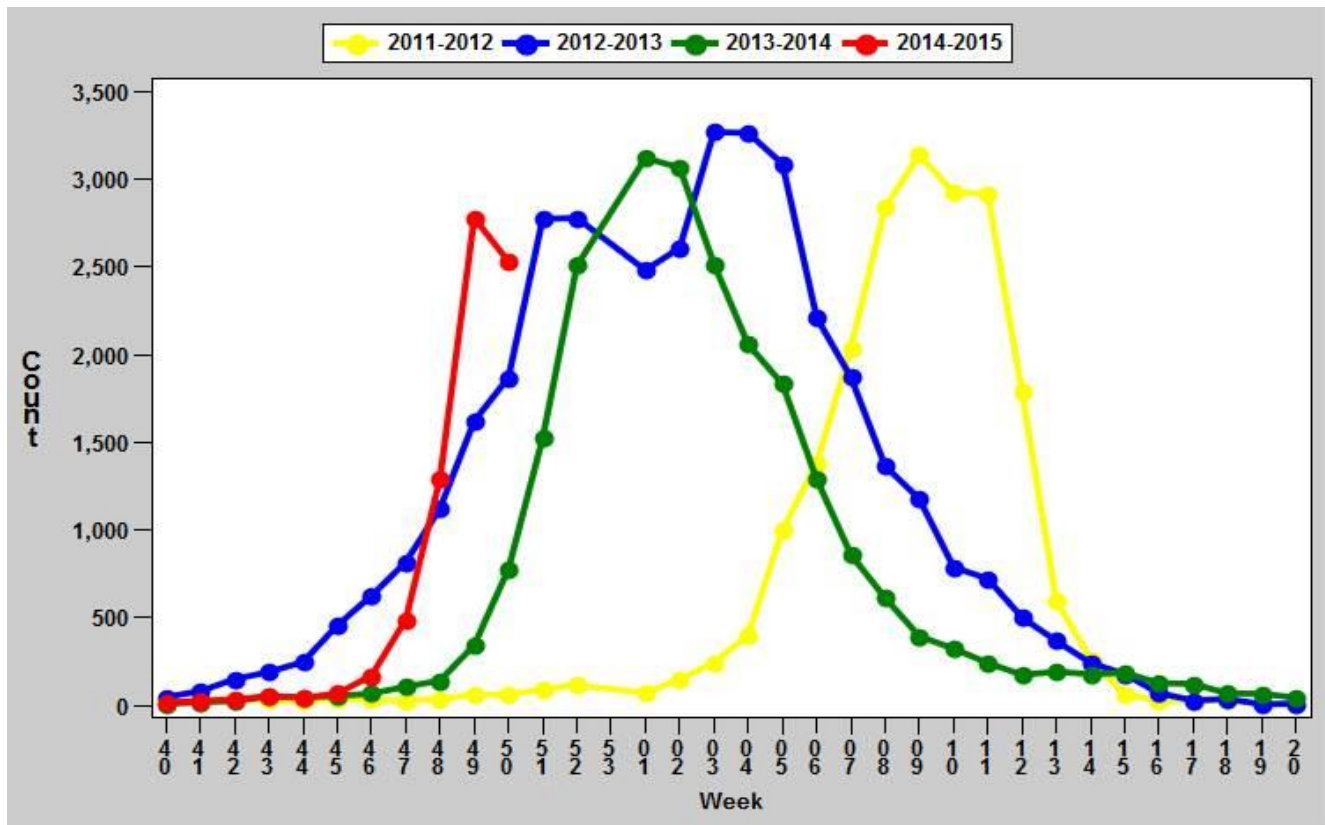
District	Week 50 Cases	Week 50 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	517	77	1,305	195
EA	949	42	3,450	154
NW	622	39	1,699	108
SE	259	55	694	146
SW	185	18	350	33
<b>Total</b>	<b>2,532</b>	<b>42</b>	<b>7,498</b>	<b>125</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

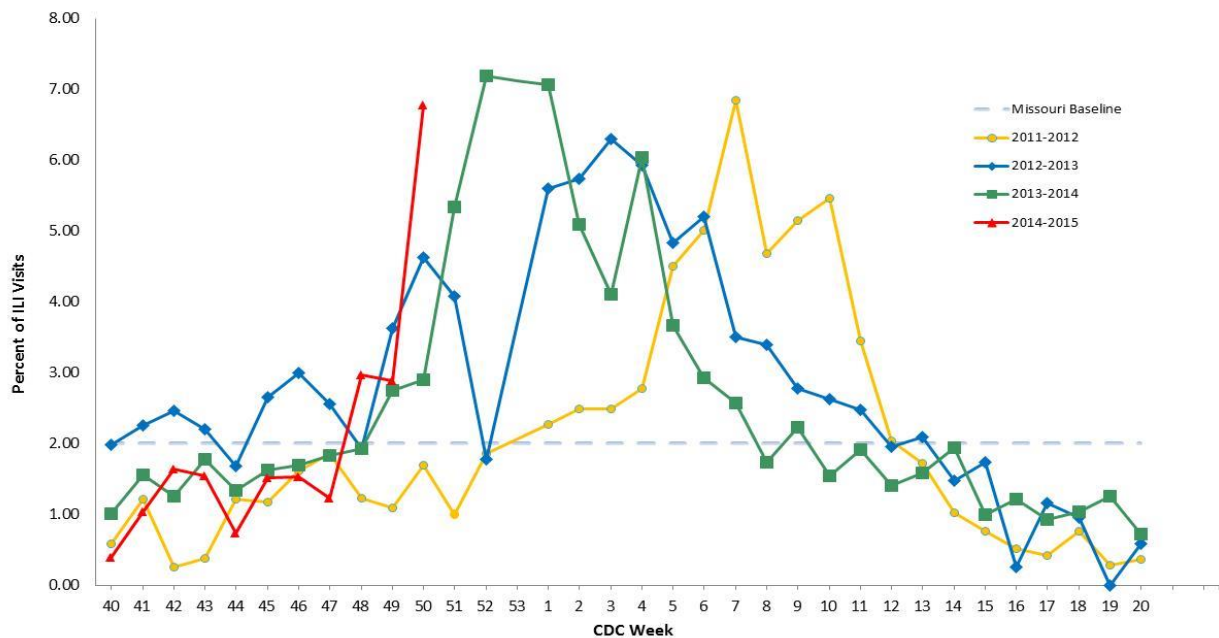
**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***



<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

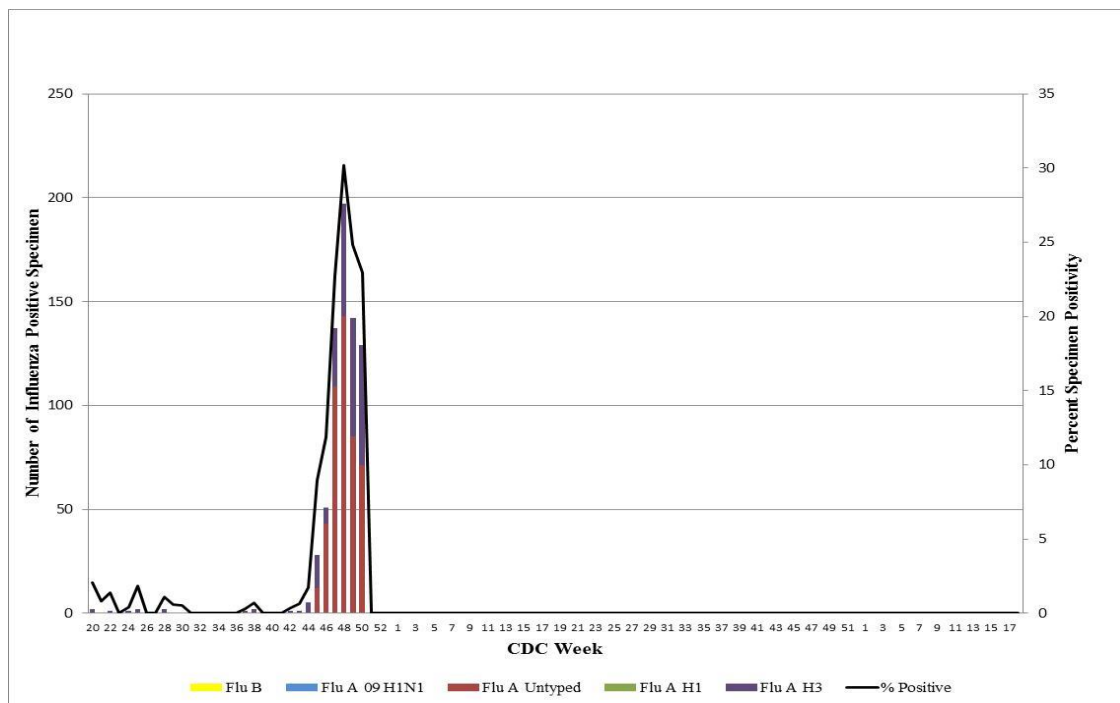
\*2014-2015 Season-to-Date through the week ending December 13, 2014 (Week 50). Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending December 13, 2014 (Week 50)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) Influenza Test by CDC Week**

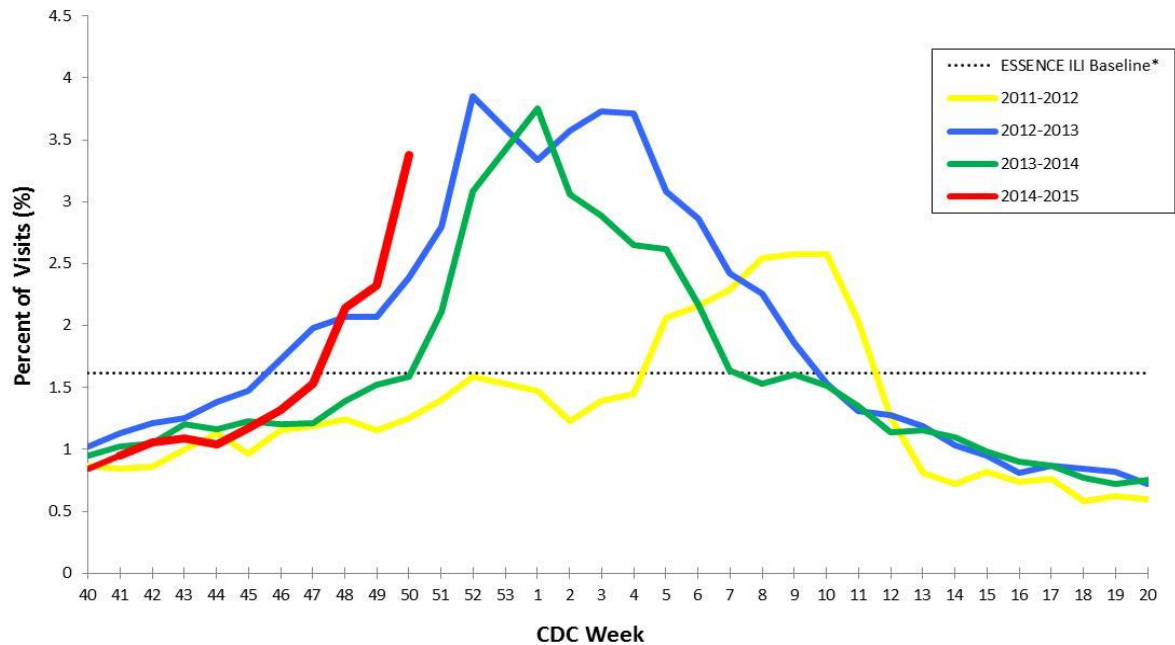


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

\*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

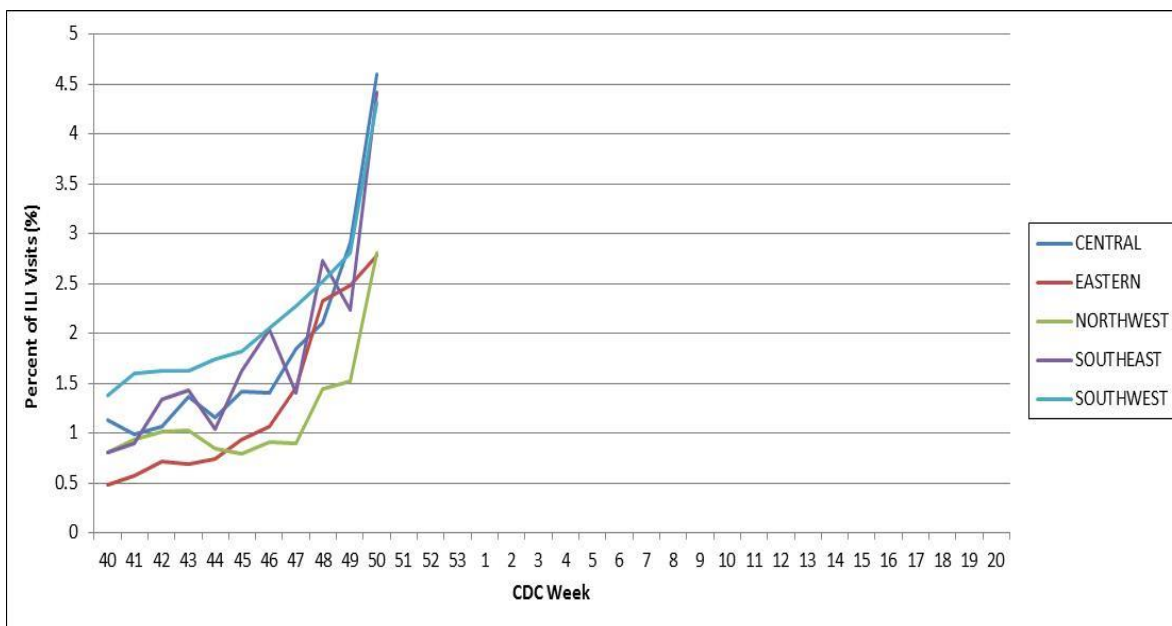
**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 50 (December 7 – December 13, 2014)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	3.7%	6.0%	2.6%	1.8%	1.3%	2.8%
Central	11.0%	9.1%	4.1%	2.3%	2.0%	4.6%
Eastern	4.2%	4.9%	2.8%	1.9%	1.7%	2.8%
Southeast	10.9%	10.9%	3.2%	1.8%	2.8%	4.4%
Southwest	11.9%	12.5%	2.5%	1.7%	1.0%	4.3%
Statewide	6.3%	7.7%	2.8%	1.9%	1.6%	3.4%

<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

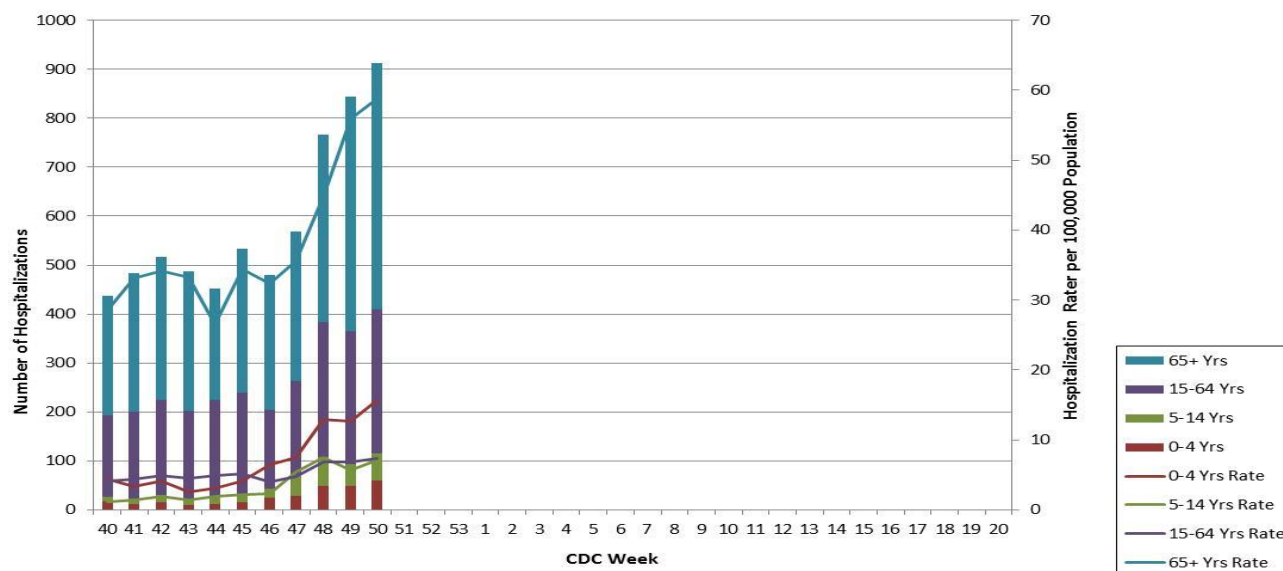


**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
 \*2014-2015 Season-to-Date through the week ending December 13, 2014 (Week 50)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).  
 \*2014-2015 Season-to-Date through the week ending December 13, 2014 (Week 50)



## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=228e5af5-6e12-4f73-a451-f12f6ab1215e>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 51: December 14 – December 20, 2014

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri remained at Widespread<sup>2</sup>.
- A season-to-date total of 14,446 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A continued to be the predominant influenza type accounting for 95.6% of reported cases during Week 51. All 20 of the laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 51 were influenza A (H3).
- CDC has antigenically characterized five influenza isolates so far this influenza season from Missouri: three were influenza A (H3N2) A/TEXAS/50/2012-like, one was influenza B/MASSACHUSETTS/02/2012-LIKE and, one was influenza A H3N2 virus antigenically similar to the A/Switzerland/9715293/2013. Influenza A/TEXAS/50/2012 and B/MASSACHUSETTS/02/2012-LIKE are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus. The CDC reports 69.4% of viruses collected from U.S. laboratories from October 1, 2014 – December 13, 2014, were antigenically different (drifted) from the influenza A H3N2 component of the 2014-2015 influenza vaccine. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 6.22% and 4.1% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rates of laboratory-positive influenza cases among children aged 0-4 years (240 cases per 100,000 population) and children aged 5-14 years (230 cases per 100,000 population). No influenza-associated pediatric deaths have been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 81 deaths during Week 50, resulting in a season-to-date total of 814 P&I associated deaths in Missouri<sup>5</sup>.
- Two outbreaks of influenza or ILI were reported during Week 51 in Missouri. One ILI-associated school closure was reported during Week 51.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Widespread is defined as: Increased ILI and/or institutional outbreaks (ILI or lab confirmed) in at least half of the regions AND recent (within the past 3 weeks) lab confirmed influenza in the state.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://mosema.maps.arcgis.com/home/item.html?id=74478e70be649848c64aee08ce93531>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 51
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 49-51 (November 30 – December 20, 2014)**

Influenza Type	Week 49	Week 50	Week 51	2014-2015* Season-to-Date
Influenza A	2,753	4,196	4,604	13,528
Influenza B	128	173	128	640
Influenza Unknown Or Untyped	55	122	83	278
Total	2,936	4,491	4,815	14,446

<sup>†</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 51 (December 14 – December 20, 2014)**

Age Group	Week 51 Cases	Week 51 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	910	240	2,709	714
05-14	1,808	230	5,269	671
15-64	1,601	40	5,054	127
65+	496	56	1,143	160
Total	4,815	80	14,446	240

<sup>†</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup>Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 51 (December 14 – December 20, 2014)**

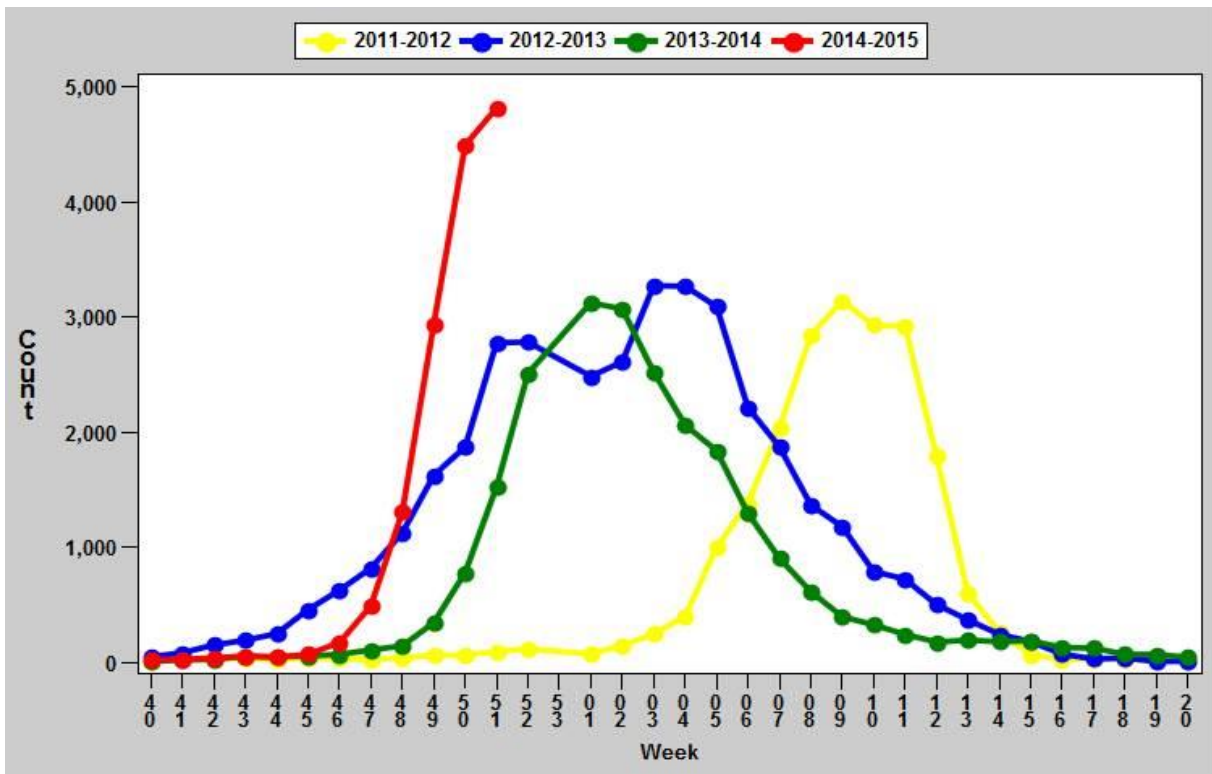
District	Week 51 Cases	Week 51 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	589	88	2,327	347
EA	1,695	76	5,769	257
NW	1,217	77	3,665	232
SE	595	125	1,424	300
SW	719	68	1,261	119
<b>Total</b>	<b>4,815</b>	<b>80</b>	<b>14,446</b>	<b>240</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

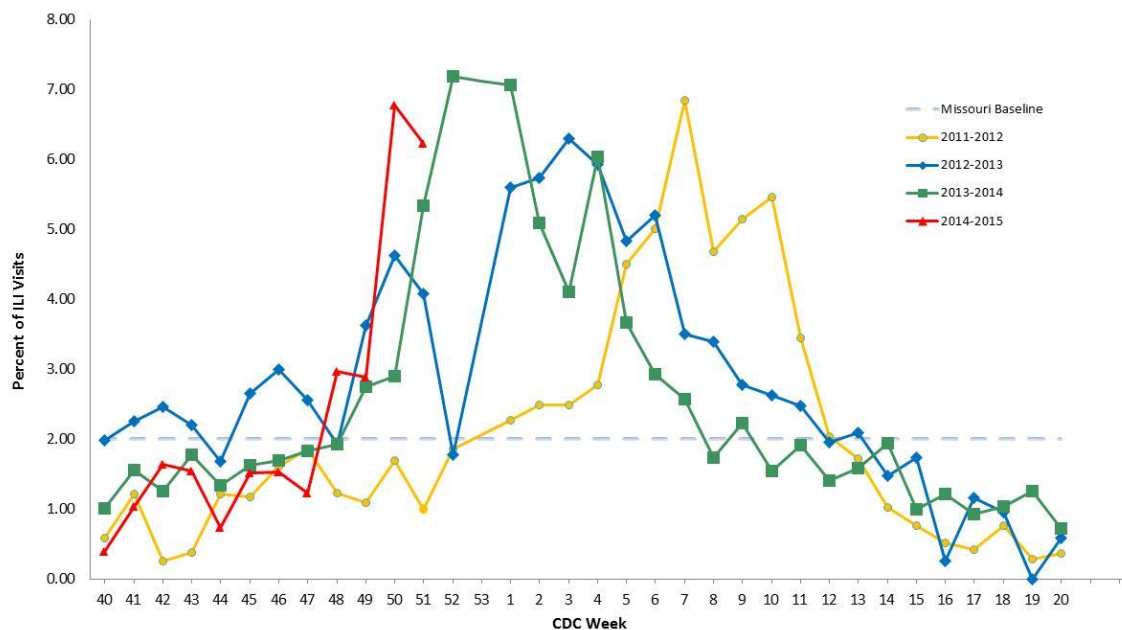
**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***



<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

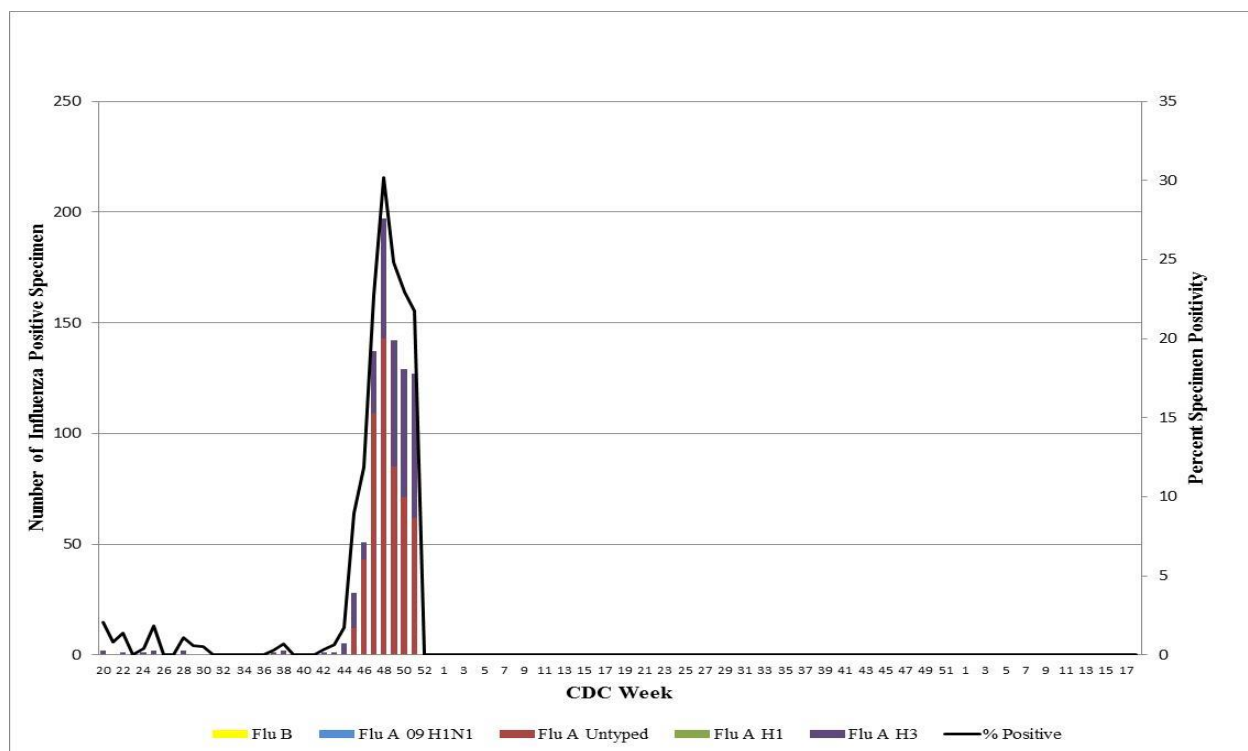
\*2014-2015 Season-to-Date through the week ending December 20, 2014 (Week 51). Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending December 20, 2014 (Week 51)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) Influenza Test by CDC Week**

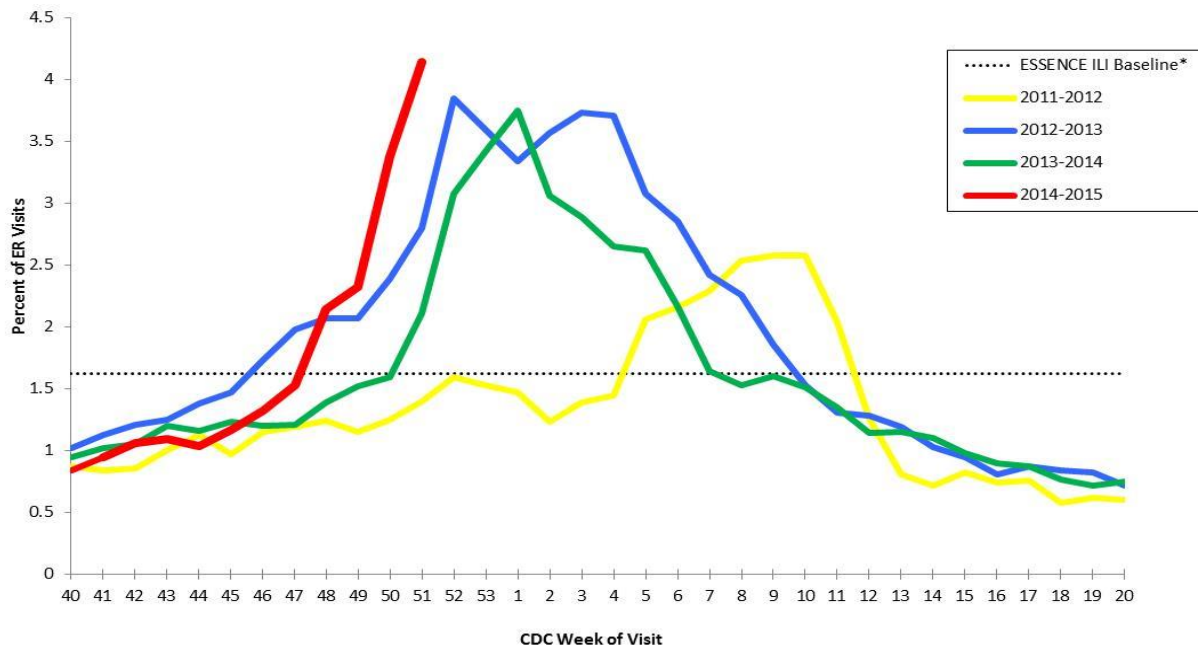


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moilmap.pdf>).

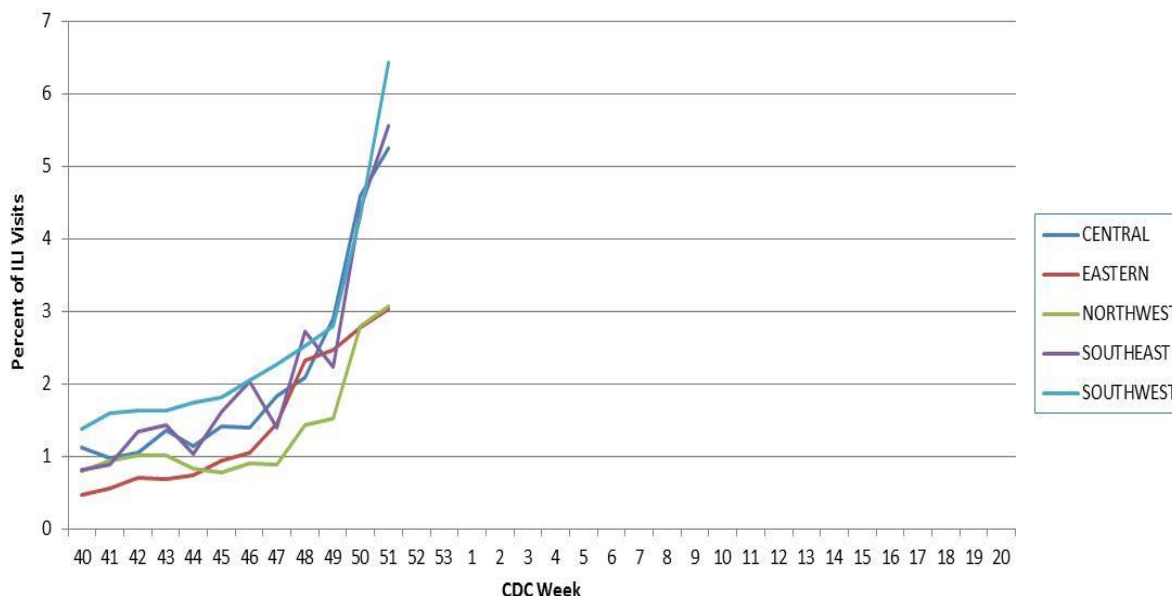
\*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 51 (December 14 – December 20, 2014)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	3.1%	7.0%	2.6%	2.5%	1.6%	3.1%
Central	11.0%	11.2%	4.8%	2.6%	2.7%	5.3%
Eastern	3.6%	5.8%	3.3%	1.8%	1.9%	3.0%
Southeast	12.2%	15.6%	4.0%	2.7%	1.9%	5.6%
Southwest	14.7%	17.4%	3.7%	2.7%	2.2%	6.4%
Statewide	6.6%	10.2%	3.4%	2.3%	2.0%	4.1%

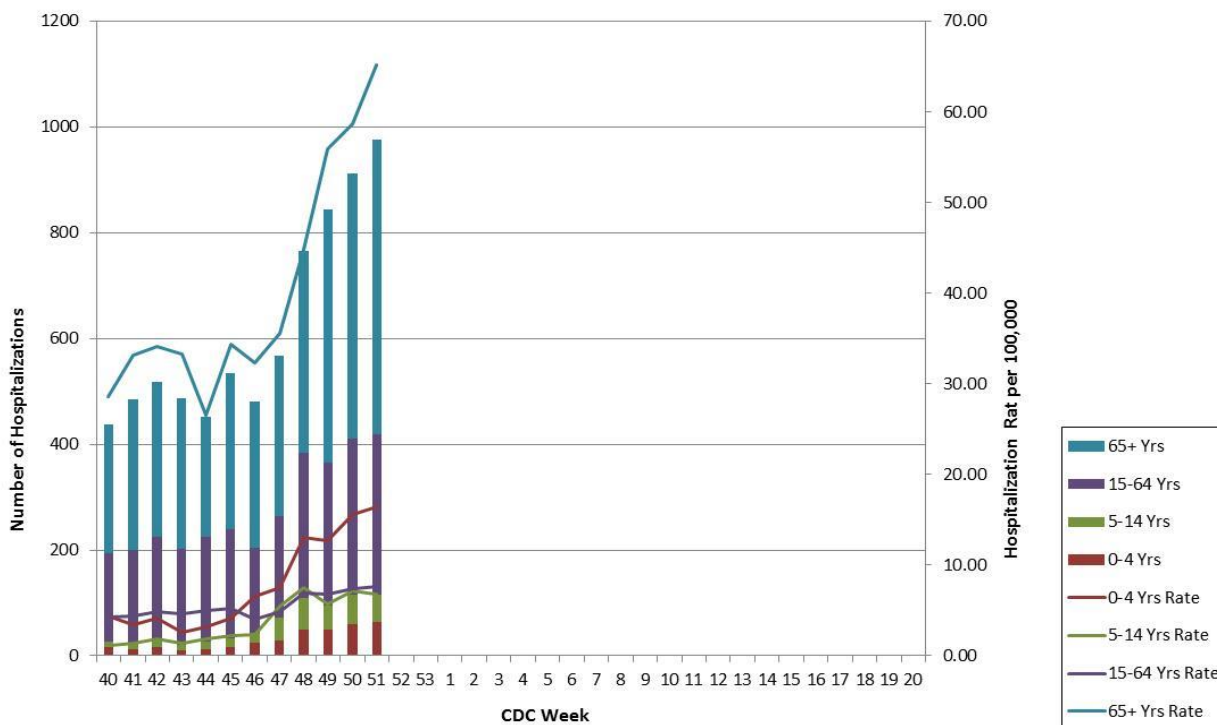
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moilmap.pdf>).

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
 \*2014-2015 Season-to-Date through the week ending December 20, 2014 (Week 51)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).  
 \*2014-2015 Season-to-Date through the week ending December 20, 2014 (Week 51)

## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=228e5af5-6e12-4f73-a451-f12f6ab1215e>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)





# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

**Week 52: December 21 – December 27, 2014**

*All data are preliminary and may change as more reports are received.*

## Summary:

- The estimated influenza activity in Missouri remained at Widespread<sup>2</sup>.
- A season-to-date total of 20,125 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A continued to be the predominant influenza type accounting for 93.9% of reported cases during Week 52. All six of the laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 52 were influenza A (H3).
- CDC has antigenically characterized five influenza isolates so far this influenza season from Missouri: three were influenza A (H3N2) A/TEXAS/50/2012-like, one was influenza B/MASSACHUSETTS/02/2012-LIKE and, one was influenza A H3N2 virus antigenically similar to the A/Switzerland/9715293/2013. Influenza A/TEXAS/50/2012 and B/MASSACHUSETTS/02/2012-LIKE are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus. The CDC reports 67.4% of viruses collected from U.S. laboratories from October 1, 2014 – December 20, 2014, were antigenically different (drifted) from the influenza A H3N2 component of the 2014-2015 influenza vaccine. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 9.04% and 5.1% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rates of laboratory-positive influenza cases among children aged 0-4 years (199 cases per 100,000 population) and children aged 5-14 years (166 cases per 100,000 population). No influenza-associated pediatric deaths have been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records increased to 97 deaths during Week 51, resulting in a season-to-date total of 911 P&I associated deaths in Missouri<sup>5</sup>.
- One outbreak of influenza or ILI was reported during Week 52 in Missouri. No ILI-associated school closures were reported during Week 52.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Widespread is defined as: Increased ILI and/or institutional outbreaks (ILI or lab confirmed) in at least half of the regions AND recent (within the past 3 weeks) lab confirmed influenza in the state.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=485fc53f66bc43a78d06dc5478b42a4a>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 52
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 50-52 (December 7 – December 27, 2014)**

Influenza Type	Week 50	Week 51	Week 52	2014-2015* Season-to-Date
Influenza A	4,523	6,082	3,530	18,900
Influenza B	177	172	112	800
Influenza Unknown Or Untyped	124	112	116	425
Total	4,824	6,366	3,758	20,125

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 52 (December 21 – December 27, 2014)**

Age Group	Week 52 Cases	Week 52 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	755	199	3,793	1,000
05-14	1,301	166	7,316	931
15-64	1,230	31	6,987	176
65+	472	53	2,028	230
Total	3,758	62	20,125	334

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 52 (December 21 – December 27, 2014)**

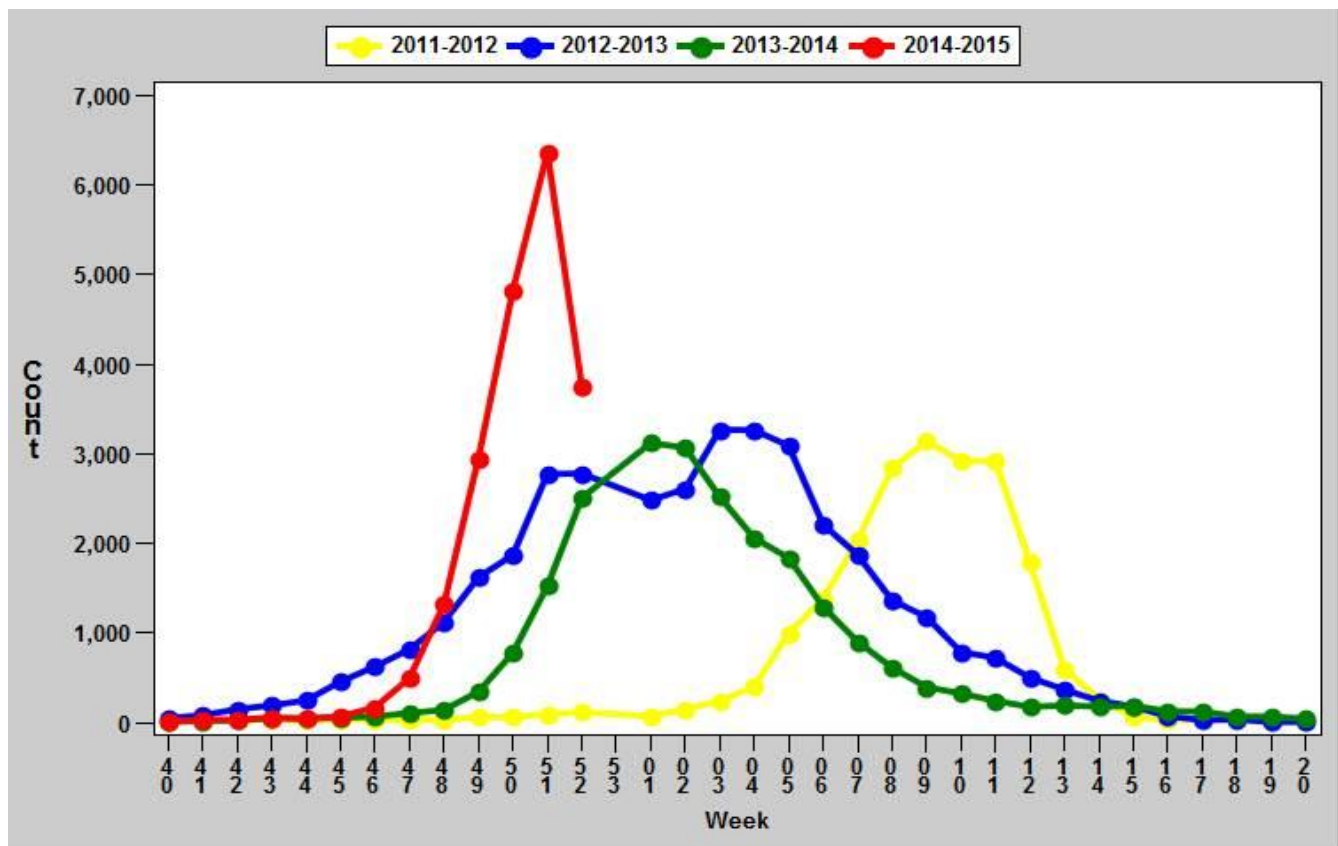
District	Week 52 Cases	Week 52 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	278	41	2,722	406
EA	1,313	59	7,942	354
NW	867	55	5,112	324
SE	461	97	2,083	439
SW	839	79	2,266	214
<b>Total</b>	<b>3,758</b>	<b>62</b>	<b>20,125</b>	<b>334</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

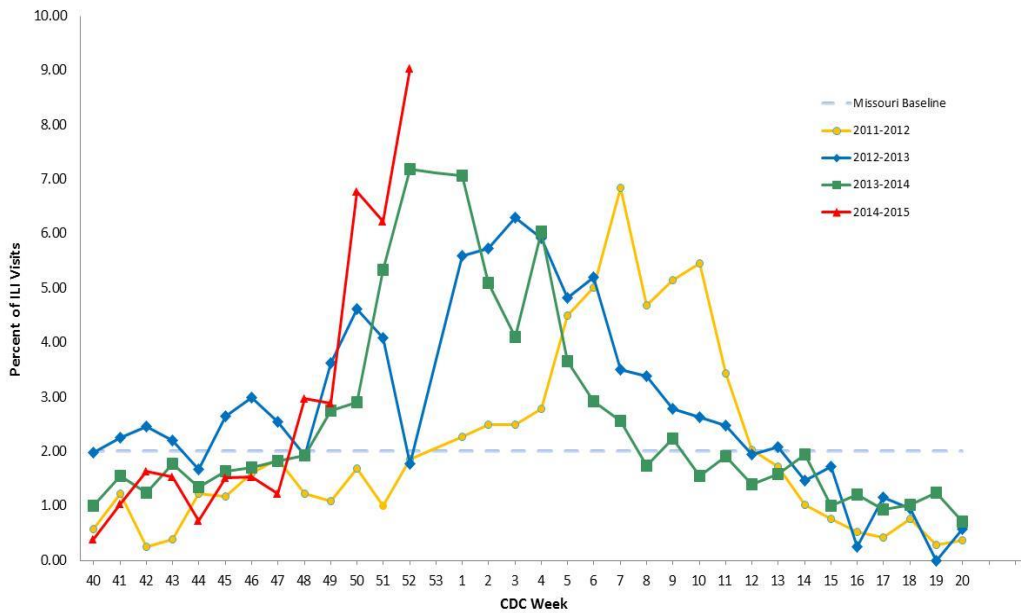
\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***

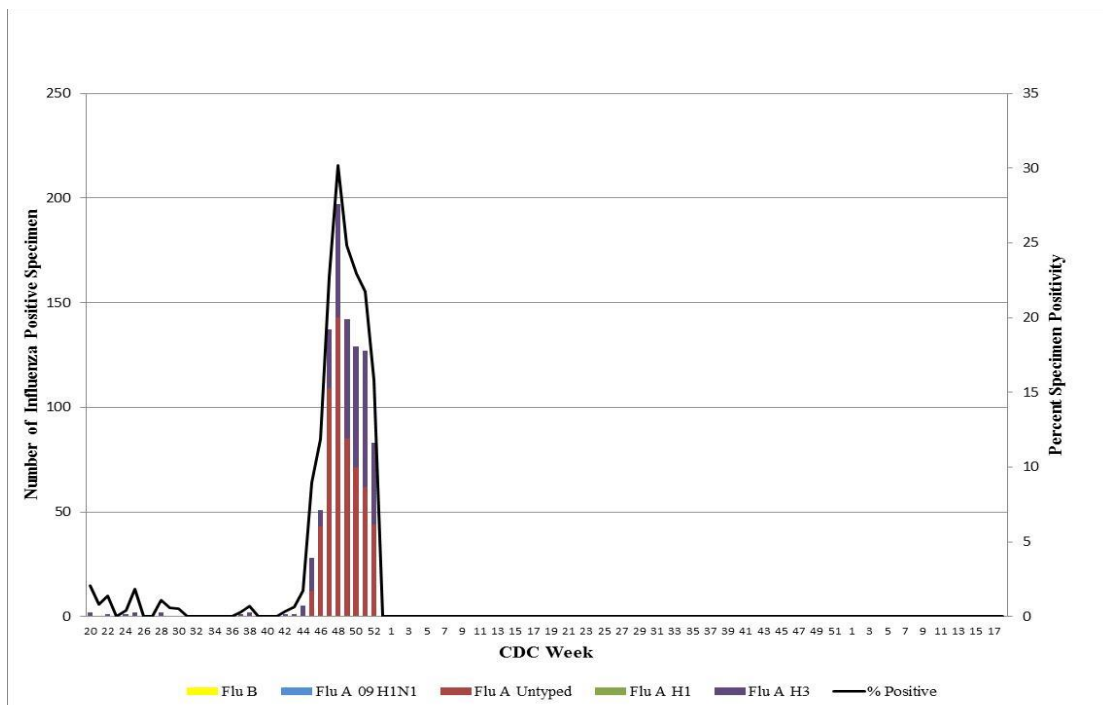


**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending December 27, 2014 (Week 52)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) Influenza Test by CDC Week**

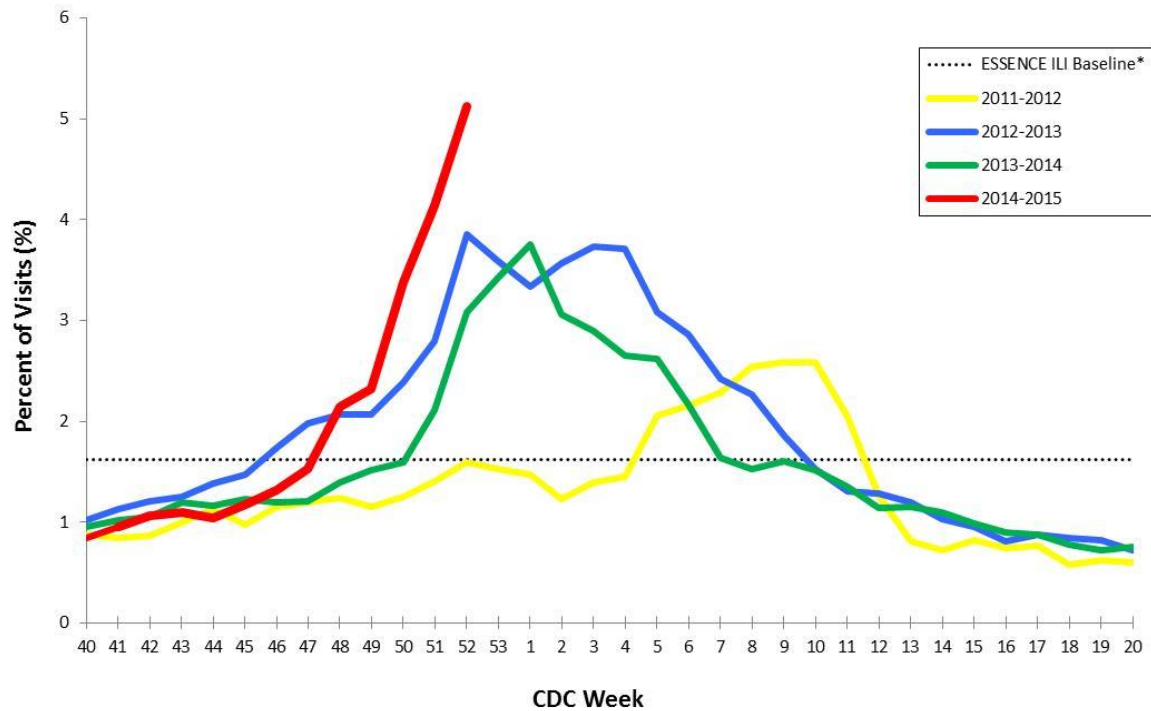


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

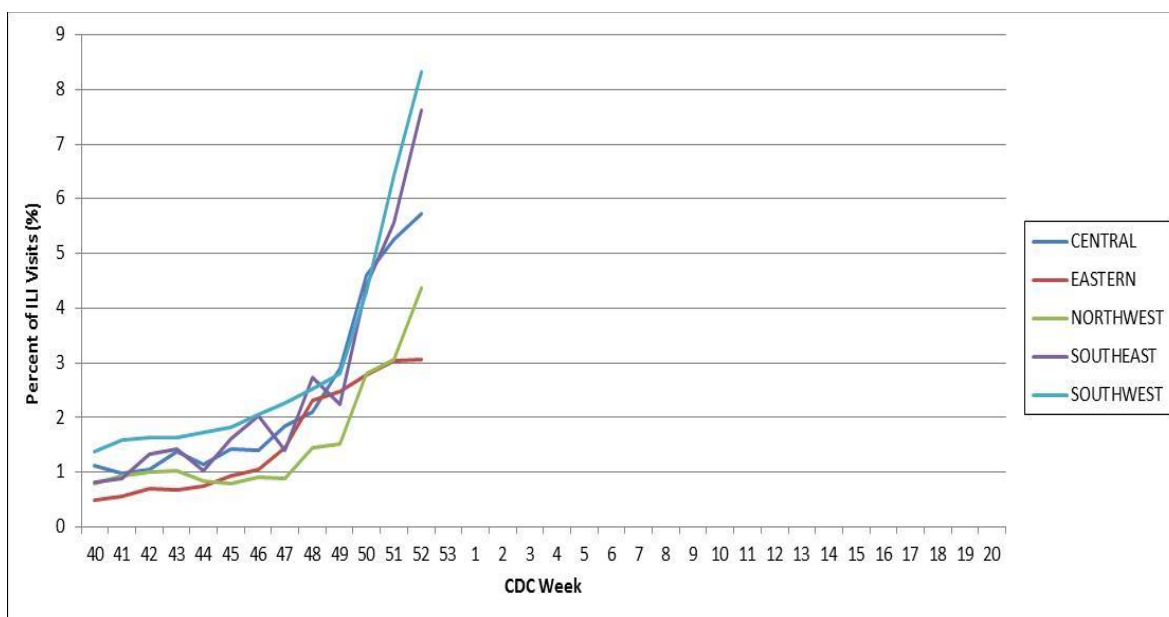
\*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 52 (December 21 – December 27, 2014)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	5.2%	7.7%	3.9%	2.9%	4.7%	4.4%
Central	11.7%	10.7%	4.6%	4.4%	3.7%	5.7%
Eastern	4.1%	5.0%	3.0%	2.3%	2.6%	3.1%
Southeast	14.9%	17.8%	5.5%	3.2%	5.5%	7.6%
Southwest	18.1%	19.5%	5.8%	4.0%	4.6%	8.3%
Statewide	8.7%	10.9%	4.2%	3.1%	3.8%	5.1%

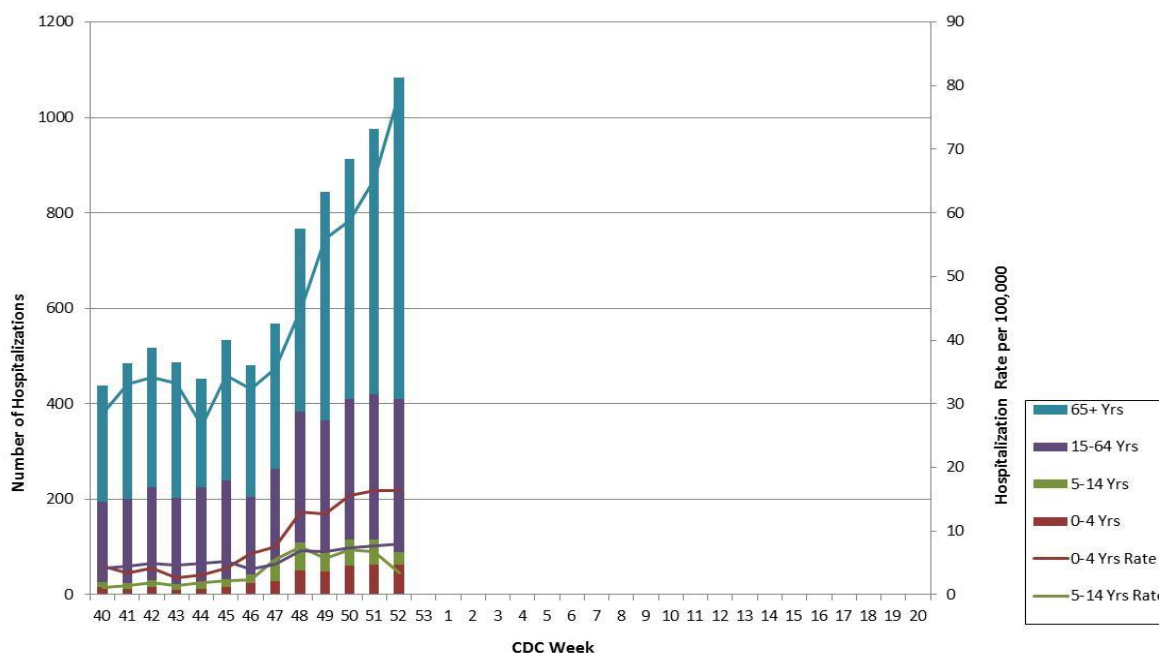
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
 \*2014-2015 Season-to-Date through the week ending December 27, 2014 (Week 52)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).  
 \*2014-2015 Season-to-Date through the week ending December 27, 2014 (Week 52)

## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=228e5af5-6e12-4f73-a451-f12f6ab1215e>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)





# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

**Week 53: December 28, 2014 – January 3, 2015**

*All data are preliminary and may change as more reports are received.*

## Summary:

- The estimated influenza activity in Missouri remained at Widespread<sup>2</sup>.
- A season-to-date total of 26,176 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A continued to be the predominant influenza type accounting for 93.2% of reported cases during Week 53. All nine of the laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 53 were influenza A (H3).
- CDC has antigenically characterized five influenza isolates so far this influenza season from Missouri: three were influenza A (H3N2) A/TEXAS/50/2012-like, one was influenza B/MASSACHUSETTS/02/2012-LIKE and, one was influenza A H3N2 virus antigenically similar to the A/Switzerland/9715293/2013. Influenza A/TEXAS/50/2012 and B/MASSACHUSETTS/02/2012-LIKE are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus. The CDC reports 68.3% of viruses collected from U.S. laboratories from October 1, 2014 – December 27, 2014, were antigenically different (drifted) from the influenza A H3N2 component of the 2014-2015 influenza vaccine. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 8.52% and 4.3% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rates of laboratory-positive influenza cases among children aged 0-4 years (166 cases per 100,000 population) and children aged 5-14 years (88 cases per 100,000 population). No influenza-associated pediatric deaths have been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 73 deaths during Week 52, resulting in a season-to-date total of 984 P&I associated deaths in Missouri<sup>5</sup>.
- Four outbreaks of influenza or ILI were reported during Week 53 in Missouri. No ILI-associated school closures were reported during Week 53.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Widespread is defined as: Increased ILI and/or institutional outbreaks (ILI or lab confirmed) in at least half of the regions AND recent (within the past 3 weeks) lab confirmed influenza in the state.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.



## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=bbfb2f1408c341ce839ef311e00e742d>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 53
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 51-53 (December 14, 2014 – January 3, 2015)**

Influenza Type	Week 51	Week 52	Week 53	2014-2015* Season-to-Date
Influenza A	6,677	5,953	2,871	24,559
Influenza B	196	195	137	1,042
Influenza Unknown Or Untyped	117	184	74	575
Total	6,990	6,332	3,082	26,176

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 53 (December 28, 2014 – January 3, 2015)**

Age Group	Week 53 Cases	Week 53 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	629	166	4,948	1,305
05-14	688	88	8,758	1,115
15-64	1,099	28	9,225	232
65+	666	75	3,244	367
Total	3,082	51	26,176	435

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 53 (December 28, 2014 – January 3, 2015)**

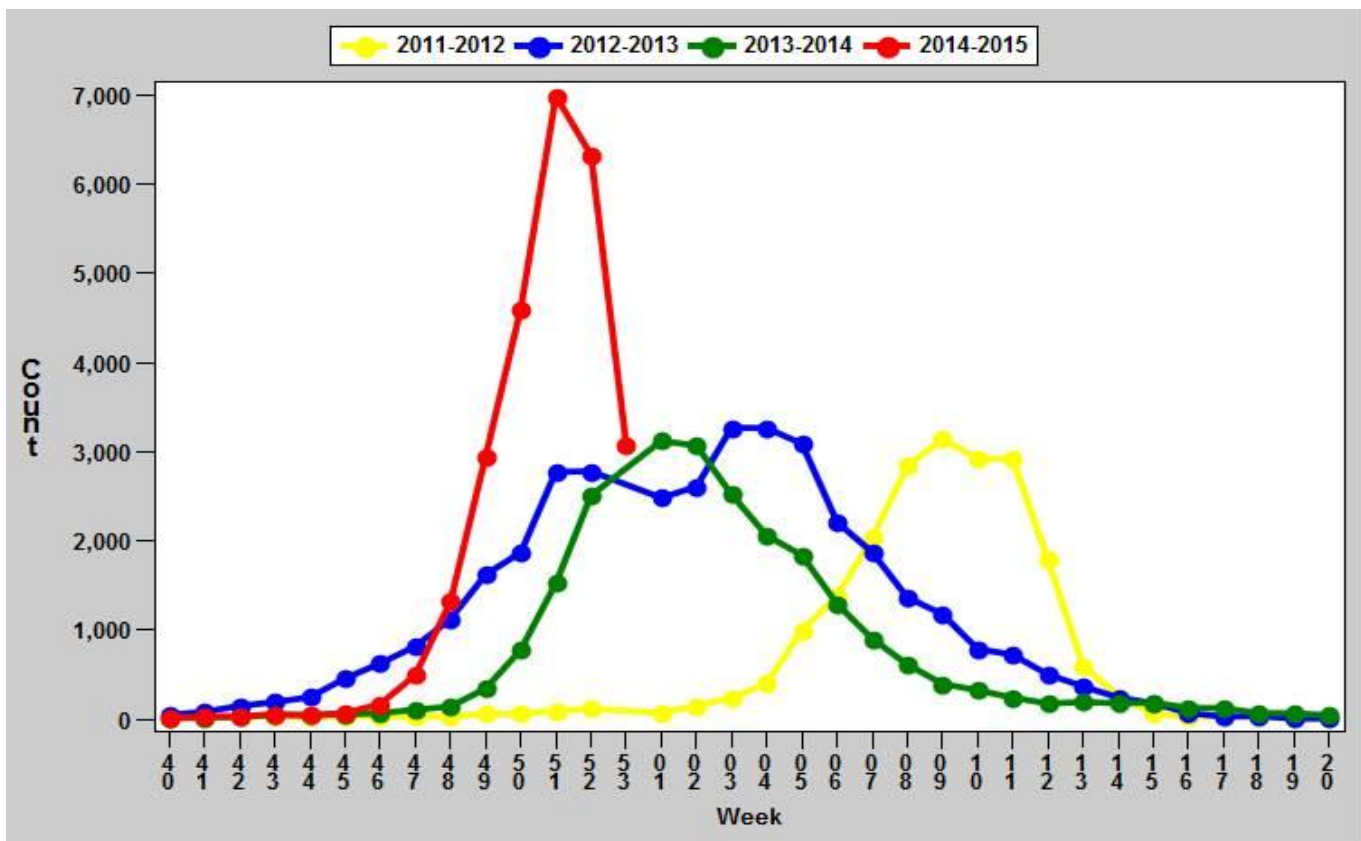
District	Week 53 Cases	Week 53 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	292	44	4,183	624
EA	869	39	8,730	389
NW	1,201	76	7,207	457
SE	474	100	2,971	626
SW	246	23	3,085	292
<b>Total</b>	<b>3,082</b>	<b>51</b>	<b>26,176</b>	<b>435</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

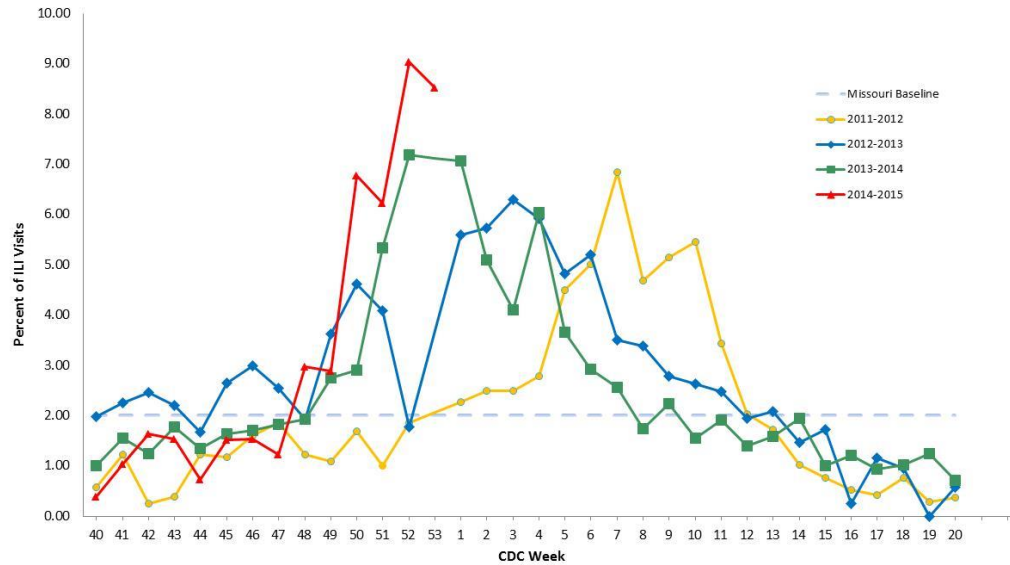
**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***



<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

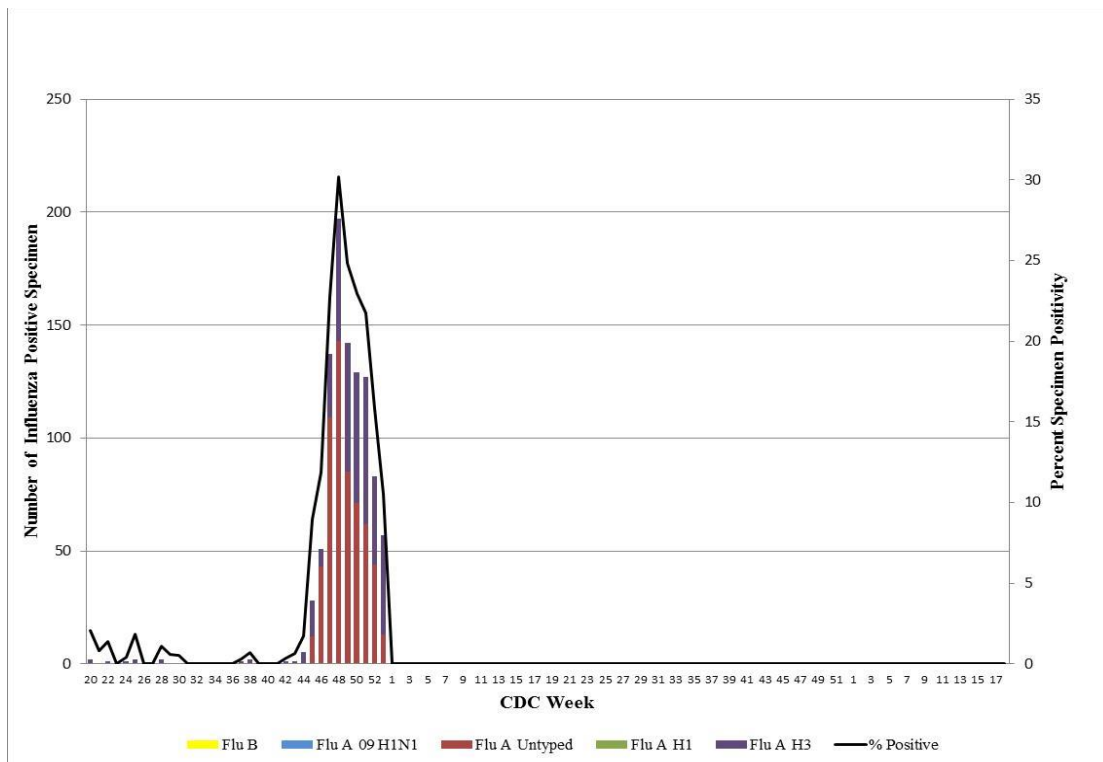
\*2014-2015 Season-to-Date through the week ending January 3, 2015 (Week 53). Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending January 3, 2015 (Week 53)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) Influenza Test by CDC Week**

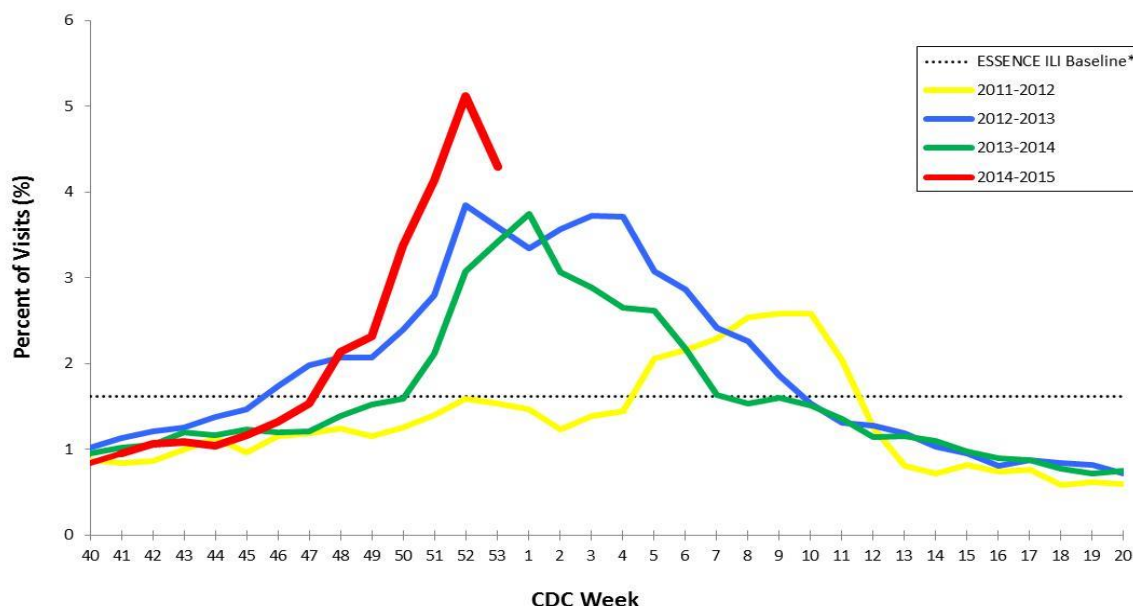


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

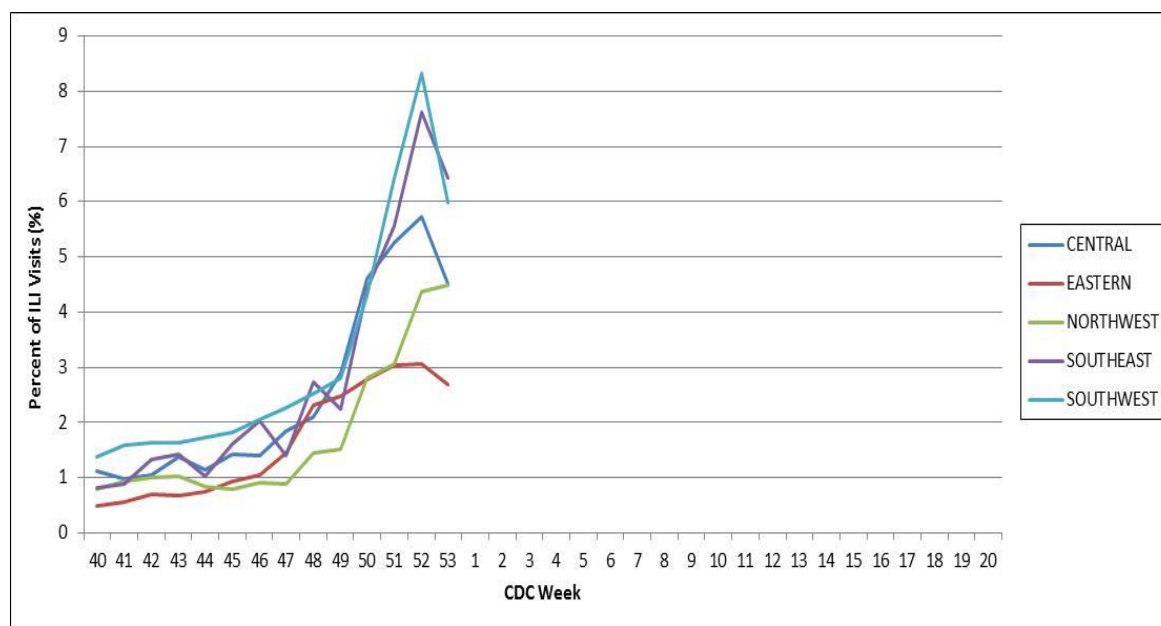
\*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 53 (December 28, 2014 – January 3, 2015)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	5.0%	6.3%	4.5%	4.2%	3.7%	4.5%
Central	12.5%	3.7%	3.9%	3.0%	3.8%	4.5%
Eastern	3.9%	3.0%	2.7%	2.3%	2.5%	2.7%
Southeast	14.1%	9.1%	4.8%	4.9%	5.6%	6.4%
Southwest	14.0%	9.2%	4.8%	4.6%	4.3%	6.0%
Statewide	7.6%	5.8%	3.9%	3.5%	3.5%	4.3%

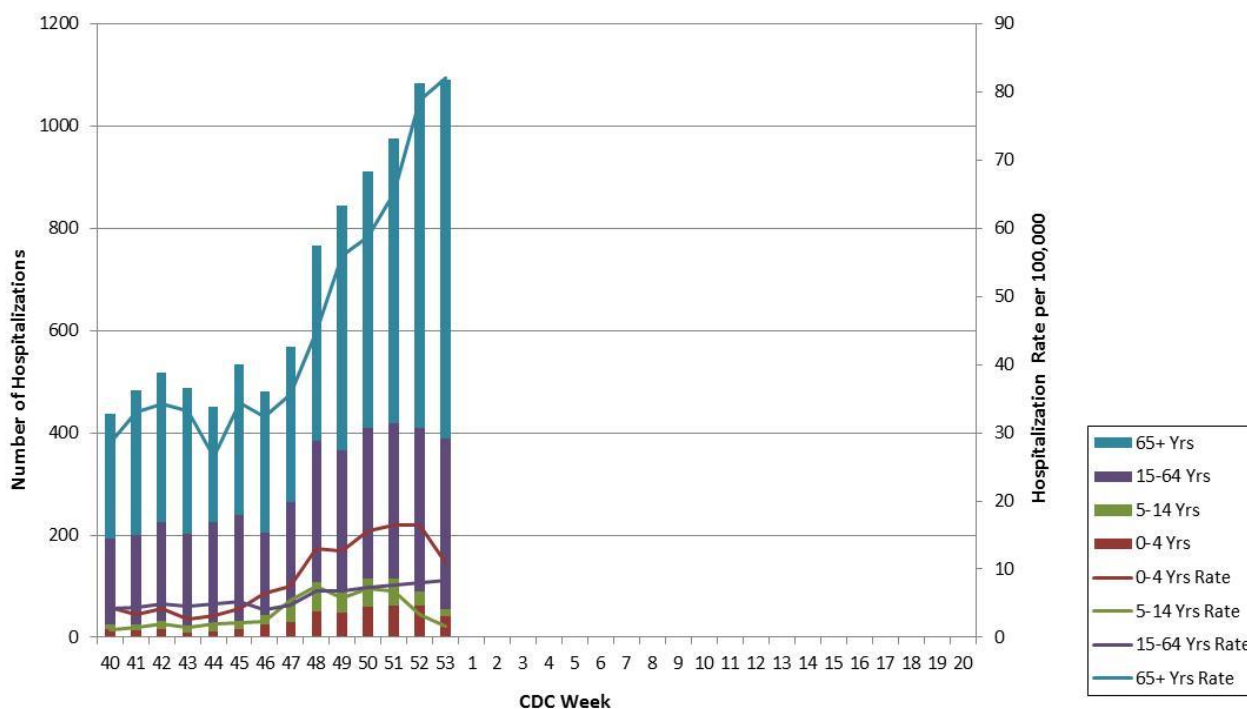
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
 \*2014-2015 Season-to-Date through the week ending January 3, 2015 (Week 53)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).  
 \*2014-2015 Season-to-Date through the week ending January 3, 2015 (Week 53)

## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=228e5af5-6e12-4f73-a451-f12f6ab1215e>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week1: January 4 – January 10, 2015

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri remained at Widespread<sup>2</sup>.
- A season-to-date total of 32,528 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A continued to be the predominant influenza type accounting for 93.2% of reported cases during Week 1. All seven of the laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 1 were influenza A (H3).
- CDC has antigenically characterized six influenza isolates so far this influenza season from Missouri: three were influenza A (H3N2) A/TEXAS/50/2012-like, one was influenza B/MASSACHUSETTS/02/2012-LIKE and, two were influenza A H3N2 virus antigenically similar to the A/Switzerland/9715293/2013. Influenza A/TEXAS/50/2012 and B/MASSACHUSETTS/02/2012-LIKE are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus. The CDC reports 68.4% of viruses collected from U.S. laboratories from October 1, 2014 – January 3, 2015, were antigenically different (drifted) from the influenza A H3N2 component of the 2014-2015 influenza vaccine. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 5.44% and 3.3% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rates of laboratory-positive influenza cases among children aged 0-4 years (146 cases per 100,000 population) and 65 years and older (63 cases per 100,000 population). No influenza-associated pediatric deaths have been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records increased to 86 deaths during Week 53, resulting in a season-to-date total of 1,070 P&I associated deaths in Missouri<sup>5</sup>.
- Three outbreaks of influenza or ILI were reported during Week 1 in Missouri. No ILI-associated school closures were reported during Week 1.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Widespread is defined as: Increased ILI and/or institutional outbreaks (ILI or lab confirmed) in at least half of the regions AND recent (within the past 3 weeks) lab confirmed influenza in the state.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.



## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=bc4fb84b9b884b00b85137a01ea19026>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 1
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 52-1 (December 21, 2014 – January 10, 2015)**

Influenza Type	Week 52	Week 53	Week 1	2014-2015* Season-to-Date
Influenza A	6,929	5,102	2,215	30,516
Influenza B	239	238	126	1,327
Influenza Unknown Or Untyped	195	129	35	685
Total	7,363	5,469	2,376	32,528

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 1 (January 4 – January 10, 2015)**

Age Group	Week 1 Cases	Week 1 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	552	146	6,295	1,660
05-14	333	42	10,072	1,282
15-64	936	24	11,665	294
65+	555	63	4,496	509
Total	2,376	39	32,528	540

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population



**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 1 (January 4 – January 10, 2015)**

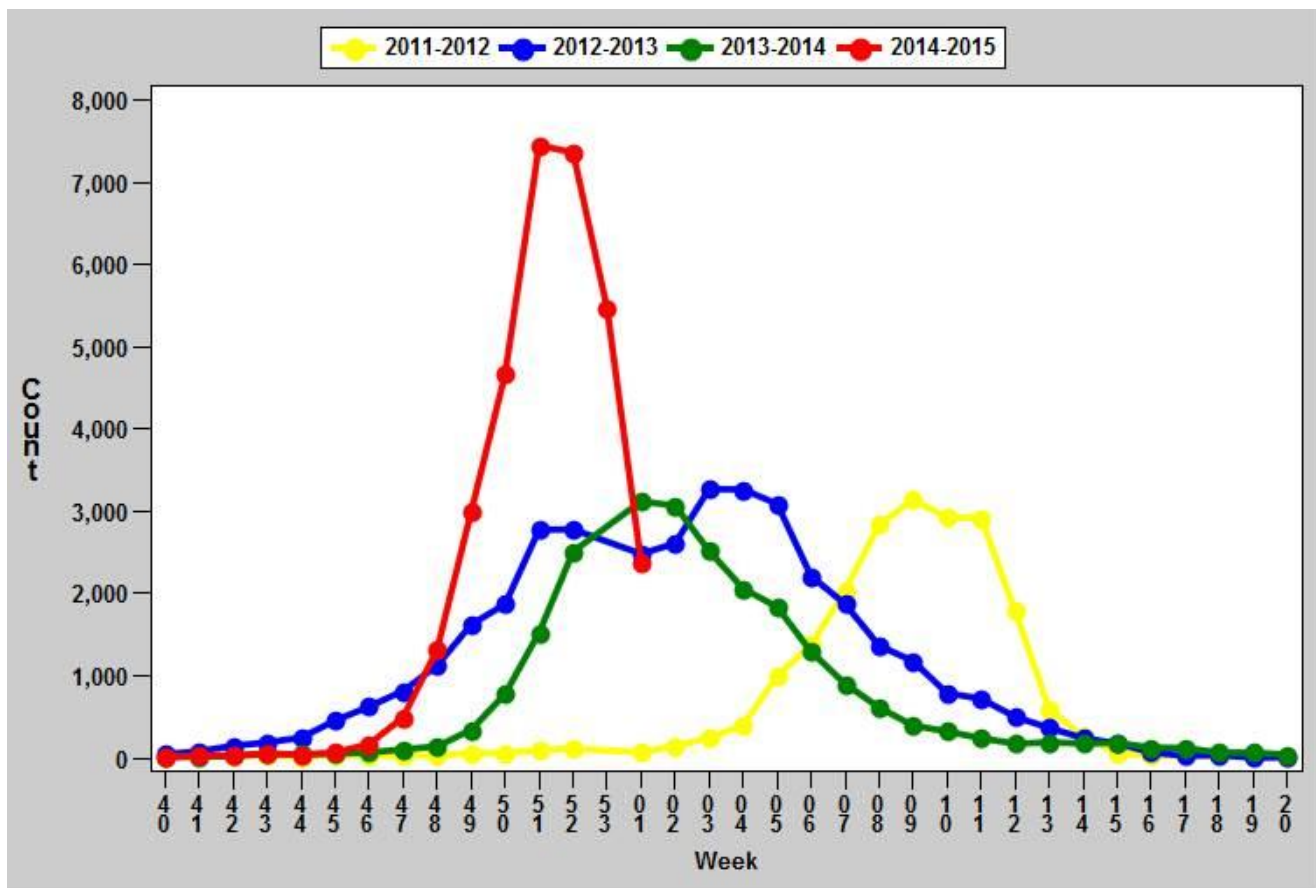
District	Week 1 Cases	Week 1 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	141	21	4,747	708
EA	659	29	10,578	472
NW	822	52	8,953	567
SE	272	57	3,731	786
SW	482	46	4,519	428
<b>Total</b>	<b>2,376</b>	<b>39</b>	<b>32,528</b>	<b>540</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

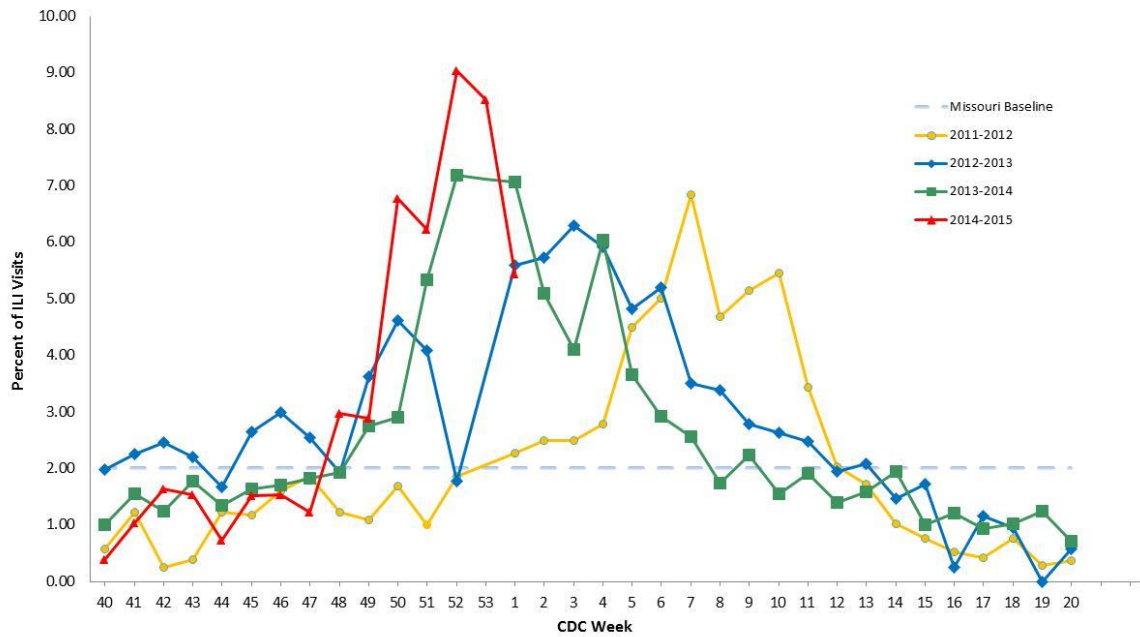
**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***



<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

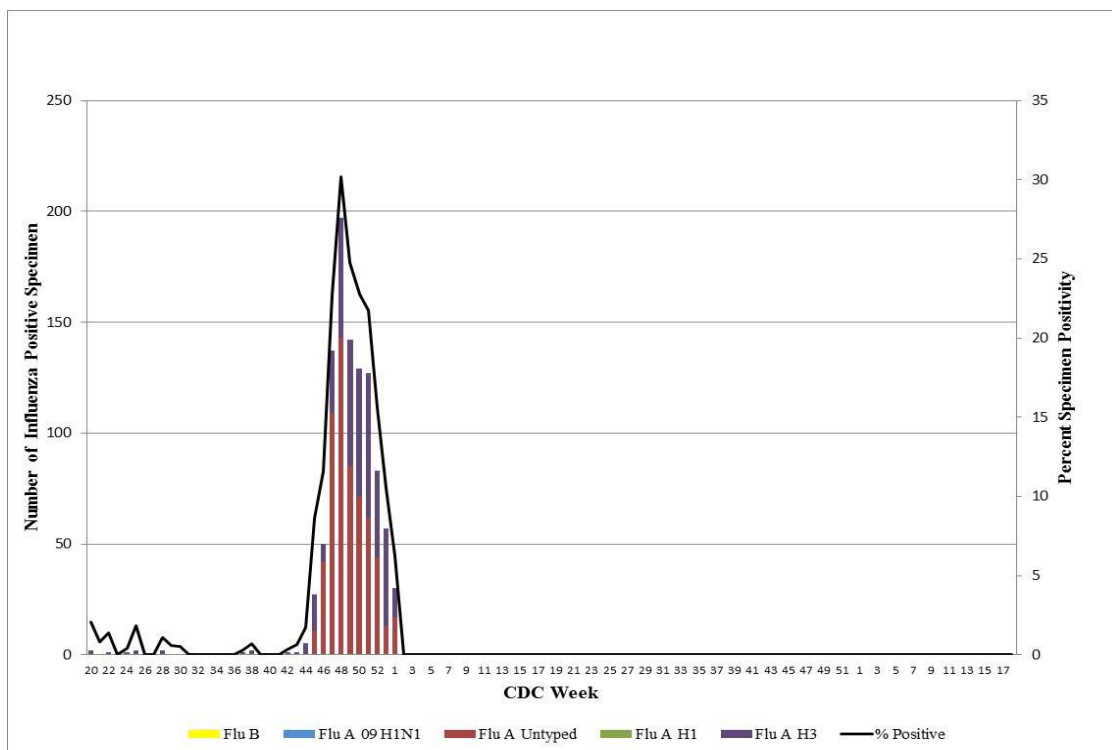
\*2014-2015 Season-to-Date through the week ending January 10, 2015 (Week 1). Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending January 10, 2015 (Week 1)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) Influenza Test by CDC Week**

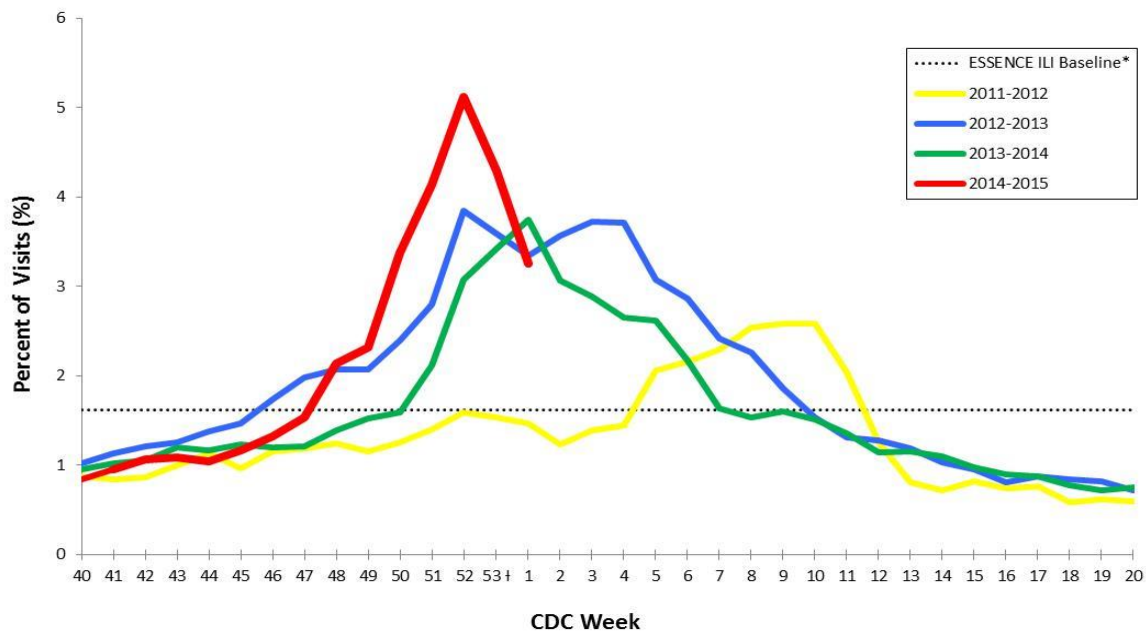


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



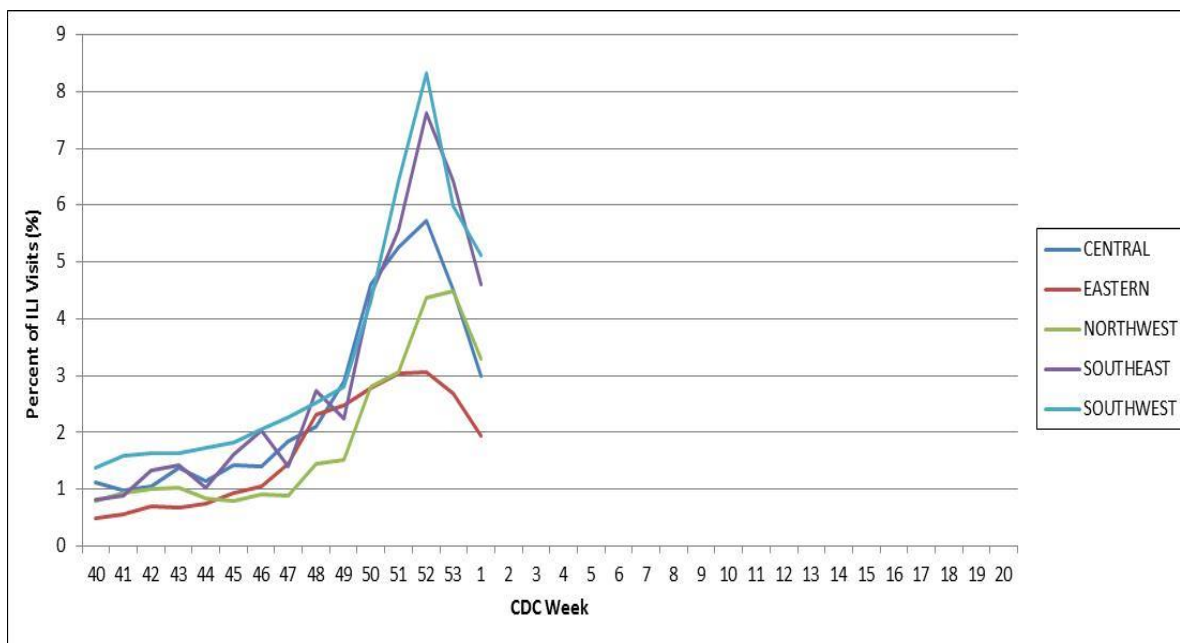
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
 \*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 1 (January 4 – January 10, 2015)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	2.6%	4.1%	3.4%	3.4%	2.9%	3.3%
Central	9.3%	2.9%	2.7%	2.3%	1.9%	3.0%
Eastern	2.8%	2.3%	2.0%	2.0%	1.3%	1.9%
Southeast	11.8%	7.2%	3.9%	2.7%	3.3%	4.6%
Southwest	13.8%	9.4%	4.2%	3.6%	2.4%	5.1%
Statewide	5.9%	4.9%	3.1%	2.8%	2.1%	3.3%

<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

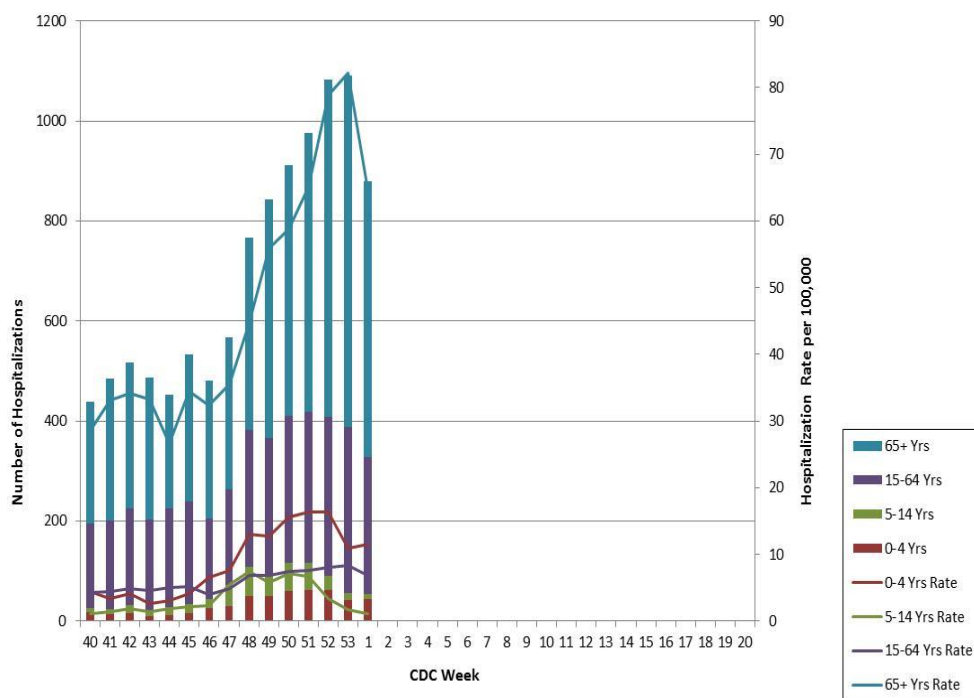
**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 95 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

\*2014-2015 Season-to-Date through the week ending January 10, 2015 (Week 1)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).

\*2014-2015 Season-to-Date through the week ending January 10, 2015 (Week 1)

## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=228e5af5-6e12-4f73-a451-f12f6ab1215e>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 2: January 11 – January 17, 2015

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri remained at Widespread.<sup>2</sup>
- A season-to-date total of 34,714 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A continued to be the predominant influenza type accounting for 91% of reported cases during Week 2. All ten of the laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 2 were influenza A (H3).
- CDC has antigenically characterized eight influenza isolates so far this influenza season from Missouri: four A (H3N2) A/TEXAS/50/2012-like, two A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, one B/MASSACHUSETTS/02/2012-like, and one B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus and accounts for 65% of viruses from U.S. laboratories from October 1, 2014 – January 10, 2015. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 4.51% and 2.5% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years (50 cases per 100,000 population). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records increased to 149 deaths during Week 1, resulting in a season-to-date total of 1,219 P&I associated deaths in Missouri<sup>5</sup>.
- No outbreaks of influenza or ILI were reported during Week 2 in Missouri. No ILI-associated school closures were reported during Week 2.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Widespread is defined as: Increased ILI and/or institutional outbreaks (ILI or lab confirmed) in at least half of the regions AND recent (within the past 3 weeks) lab confirmed influenza in the state.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=961e399d74df4609b70d603f91a98f43>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 2
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 53-2 (December 28, 2014 – January 17, 2015)**

Influenza Type	Week 53	Week 1	Week 2	2014-2015* Season-to-Date
Influenza A	5,313	2,939	948	32,440
Influenza B	243	187	79	1,472
Influenza Unknown Or Untyped	138	124	17	802
Total	5,694	3,250	1,044	34,714

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 2 (January 11 – January 17, 2015)**

Age Group	Week 2 Cases	Week 2 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	189	50	6,713	1,770
05-14	173	22	10,427	1,327
15-64	415	10	12,546	316
65+	267	30	5,028	569
Total	1,044	17	34,714	576

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population



**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 2 (January 11 – January 17, 2015)**

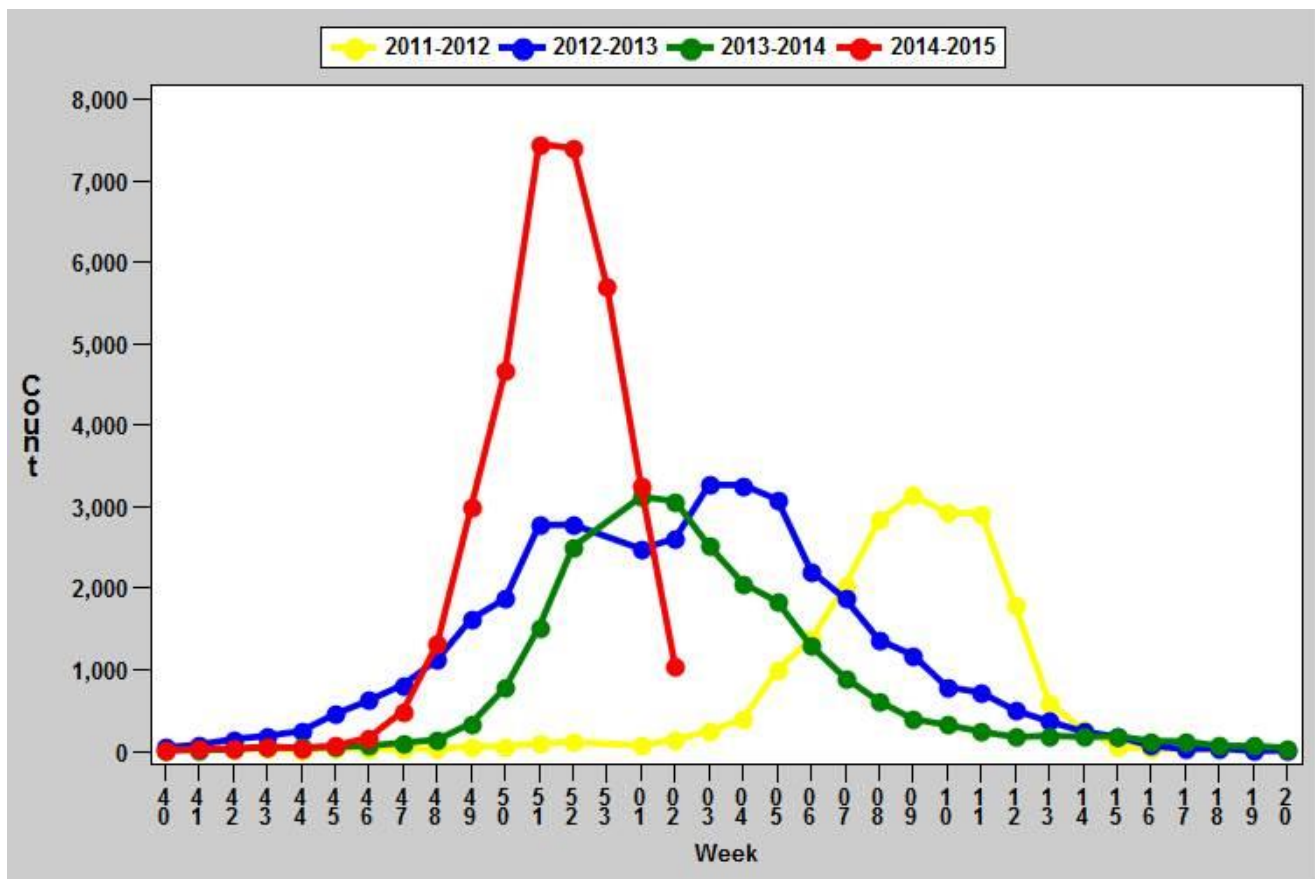
District	Week 2 Cases	Week 2 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	77	11	4,961	740
EA	267	12	10,925	487
NW	302	19	9,713	615
SE	162	34	3,999	842
SW	236	22	5,116	484
<b>Total</b>	<b>1,044</b>	<b>17</b>	<b>34,714</b>	<b>576</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***

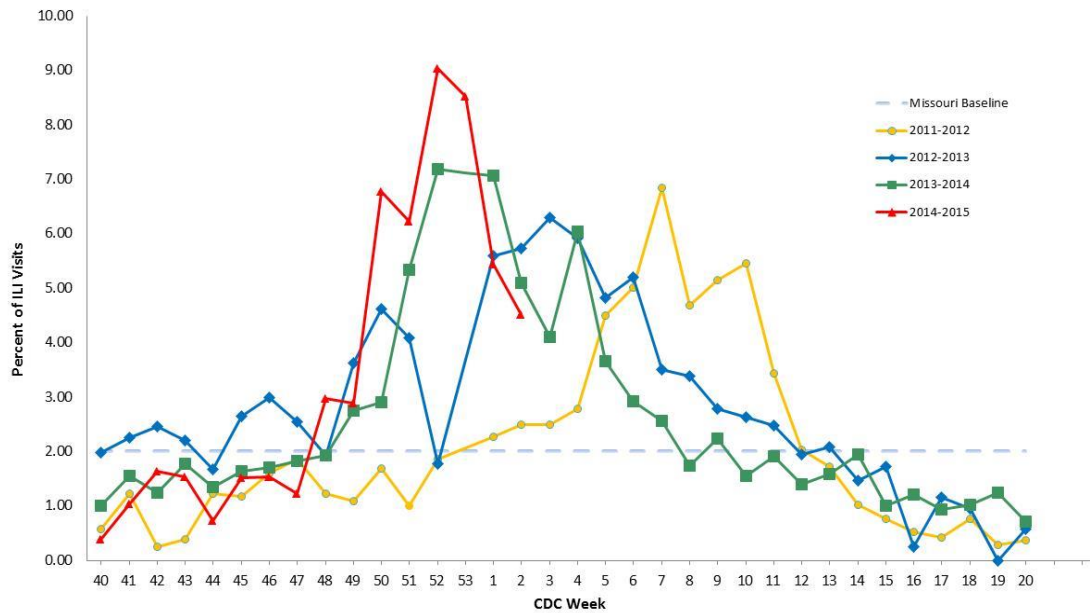


<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*2014-2015 Season-to-Date through the week ending January 17, 2015 (Week 2). Data Source: Missouri Health Information Surveillance System (WebSurv).

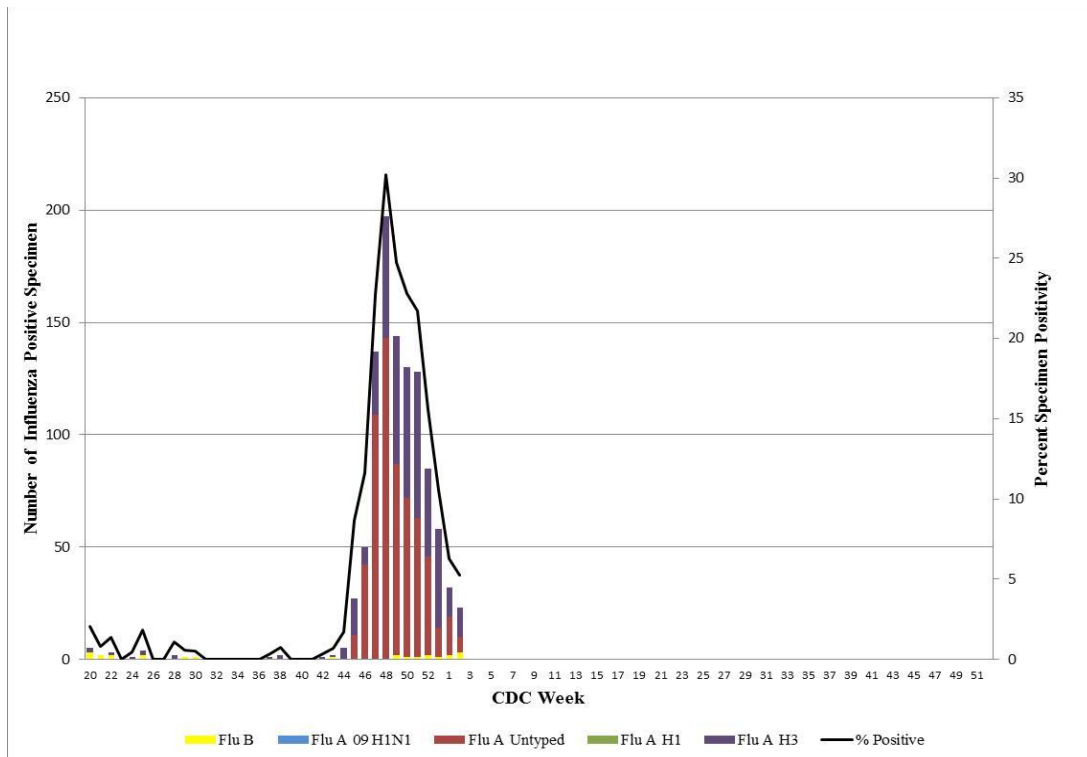


**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending January 17, 2015 (Week 2)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) Influenza Test by CDC Week**

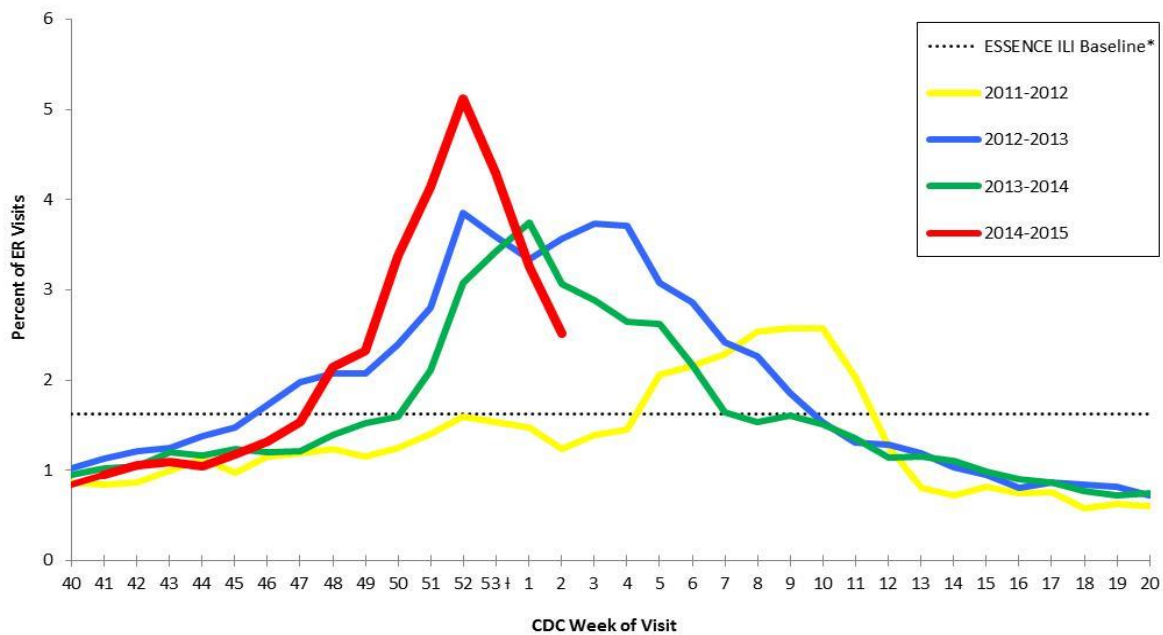


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

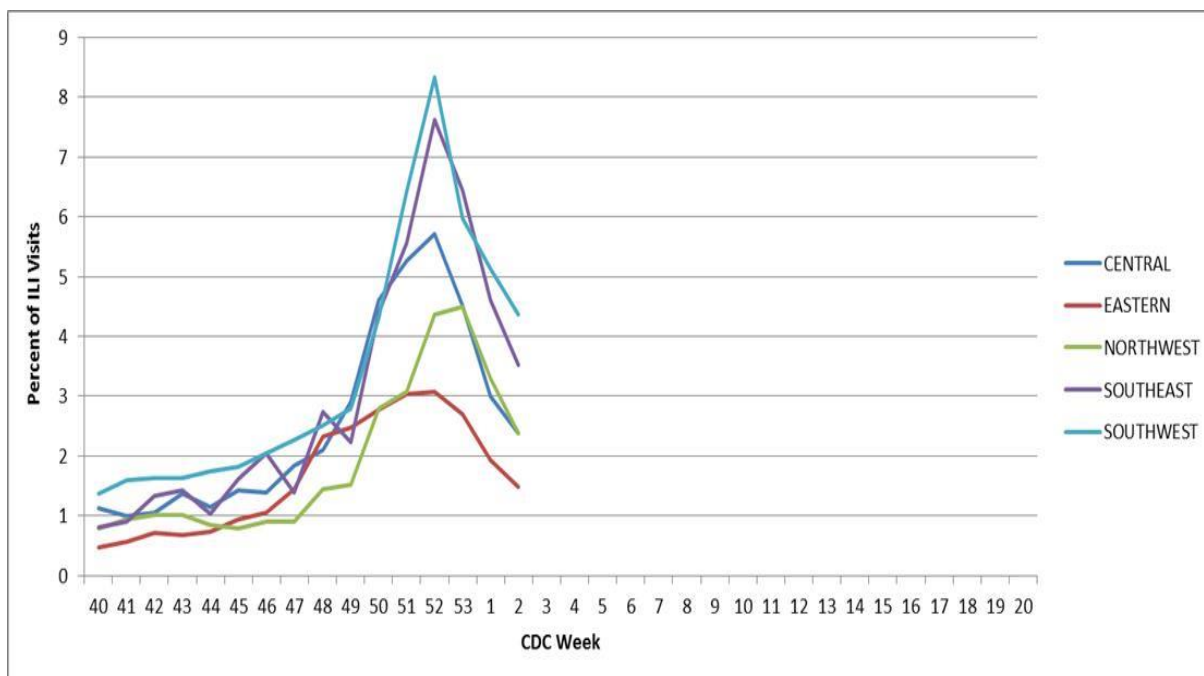
\*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 2 (January 11 – January 17, 2015)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	3.1%	3.2%	2.5%	2.1%	1.5%	2.4%
Central	5.3%	3.5%	2.3%	1.5%	1.9%	2.4%
Eastern	2.5%	2.0%	1.7%	1.2%	0.7%	1.5%
Southeast	10.3%	9.0%	1.7%	2.9%	1.9%	3.5%
Southwest	12.9%	9.9%	3.4%	2.4%	1.0%	4.4%
Statewide	<b>5.2%</b>	<b>4.7%</b>	<b>2.3%</b>	<b>1.8%</b>	<b>1.2%</b>	<b>2.5%</b>

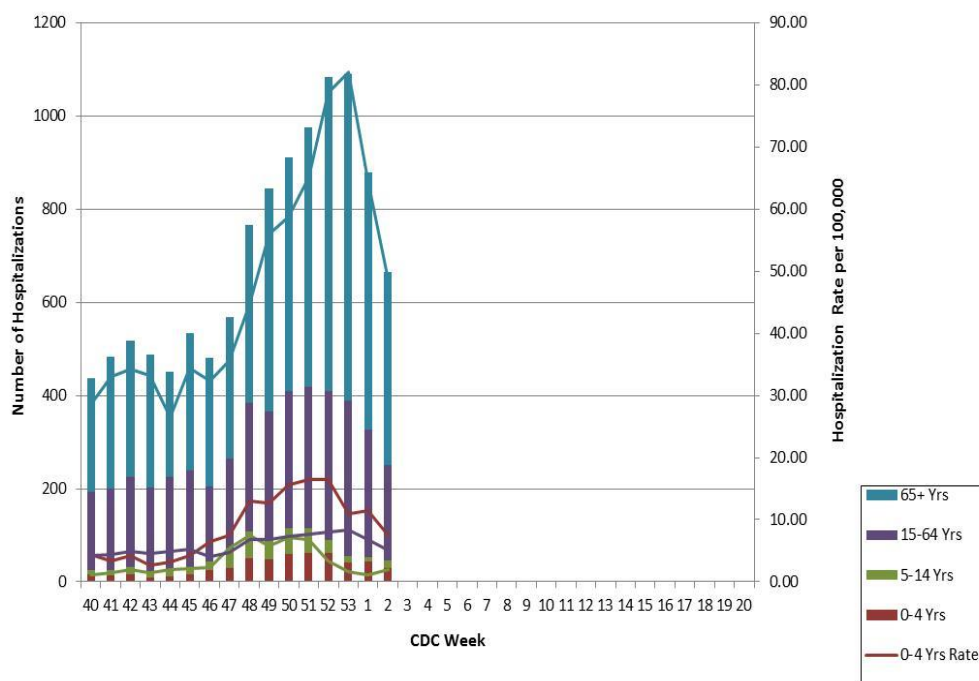
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
 \*2014-2015 Season-to-Date through the week ending January 17, 2015 (Week 2)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).  
 \*2014-2015 Season-to-Date through the week ending January 17, 2015 (Week 2)

## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 3: January 18 – January 24, 2015

*All data are preliminary and may change as more reports are received.*

### Summary:

- Reported influenza activity in Missouri continues to decline, though the estimated influenza activity level remains at Widespread.<sup>2</sup>
- A season-to-date total of 38,023 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A continued to be the predominant influenza type accounting for 91% of reported cases during Week 3. All three of the laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 3 were influenza A (H3).
- CDC has antigenically characterized eight influenza isolates so far this influenza season from Missouri: four A (H3N2) A/TEXAS/50/2012-like, two A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, one B/MASSACHUSETTS/02/2012-like, and one B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus and accounts for 64.3% of viruses from U.S. laboratories from October 1, 2014 – January 17, 2015. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 5.82% and 2.4% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years (68 cases per 100,000 population). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 130 deaths during Week 2, resulting in a season-to-date total of 1,349 P&I associated deaths in Missouri<sup>5</sup>.
- No outbreaks of influenza or ILI were reported during Week 3 in Missouri. No ILI-associated school closures were reported during Week 3.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Widespread is defined as: Increased ILI and/or institutional outbreaks (ILI or lab confirmed) in at least half of the regions AND recent (within the past 3 weeks) lab confirmed influenza in the state.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=114311e5bf96463183744e69514ea904>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 3
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 1-3 (January 4 – January 24, 2015)**

Influenza Type	Week 1	Week 2	Week 3	2014-2015* Season-to-Date
Influenza A	3,328	1,950	1,132	35,431
Influenza B	204	176	92	1,678
Influenza Unknown Or Untyped	151	64	23	914
Total	3,683	2,190	1,247	38,023

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 3 (January 18 – January 24, 2015)**

Age Group	Week 3 Cases	Week 3 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	257	68	7,301	1,925
05-14	268	34	11,185	1,424
15-64	507	13	13,895	35
65+	215	24	5,642	639
Total	1,247	21	38,023	631

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 3 (January 18 – January 24, 2015)**

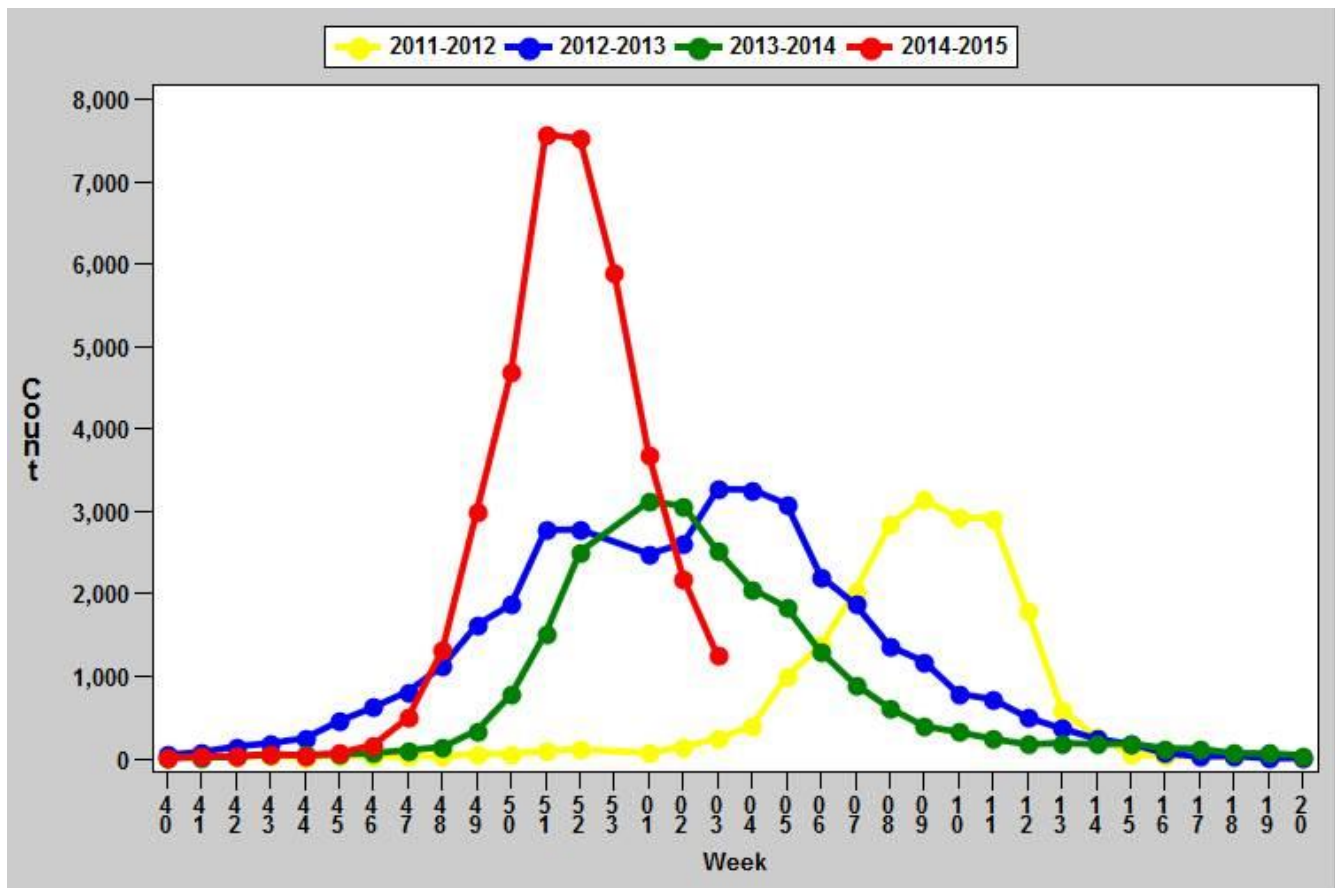
District	Week 3 Cases	Week 3 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	122	18	5,381	803
EA	224	10	11,192	499
NW	449	28	10,901	690
SE	201	42	4,485	945
SW	251	24	6,064	574
<b>Total</b>	<b>1,247</b>	<b>21</b>	<b>38,023</b>	<b>631</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***

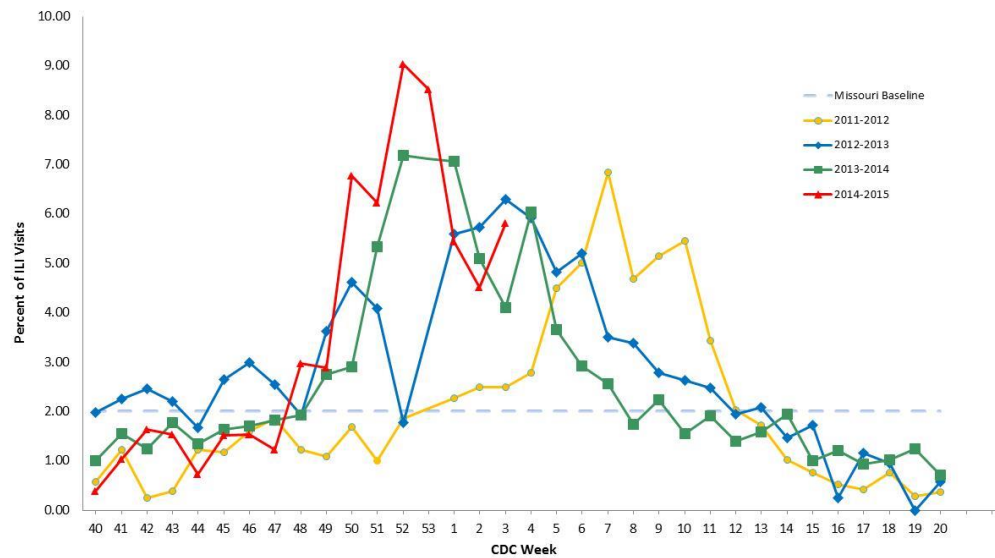


<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*2014-2015 Season-to-Date through the week ending January 24, 2015 (Week 3). Data Source: Missouri Health Information Surveillance System (WebSurv).

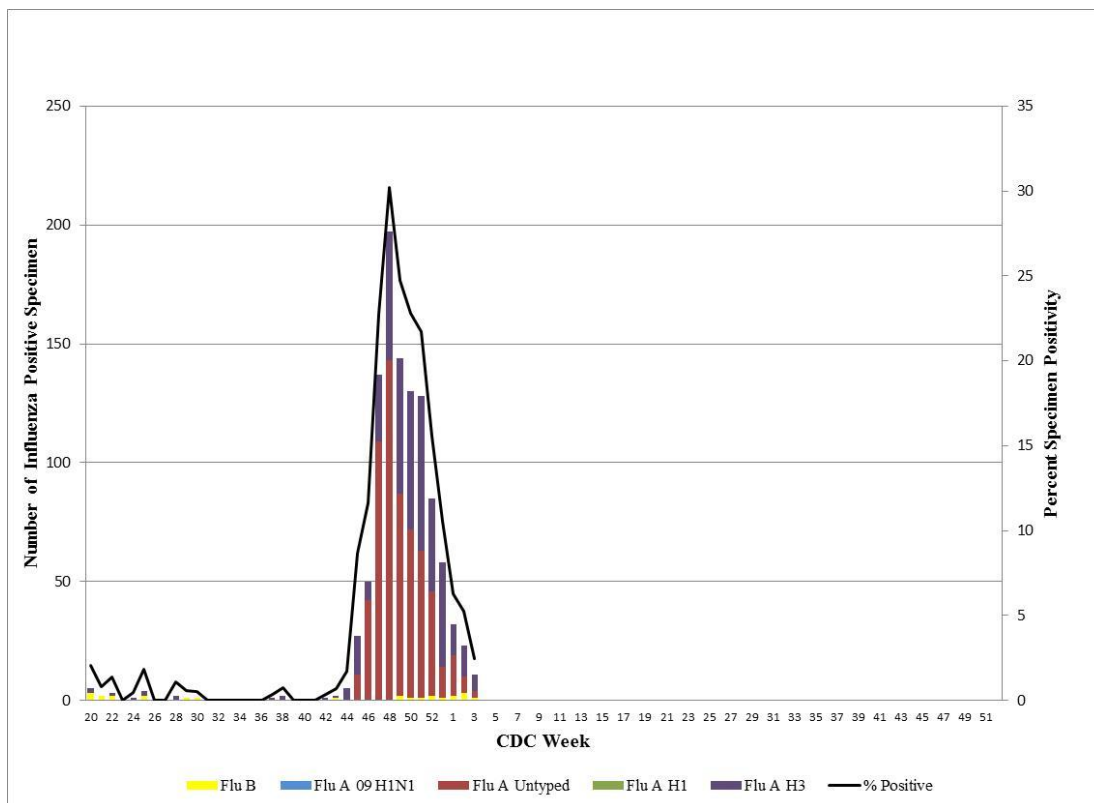


**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending January 24, 2015 (Week 3)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) Influenza Test by CDC Week**



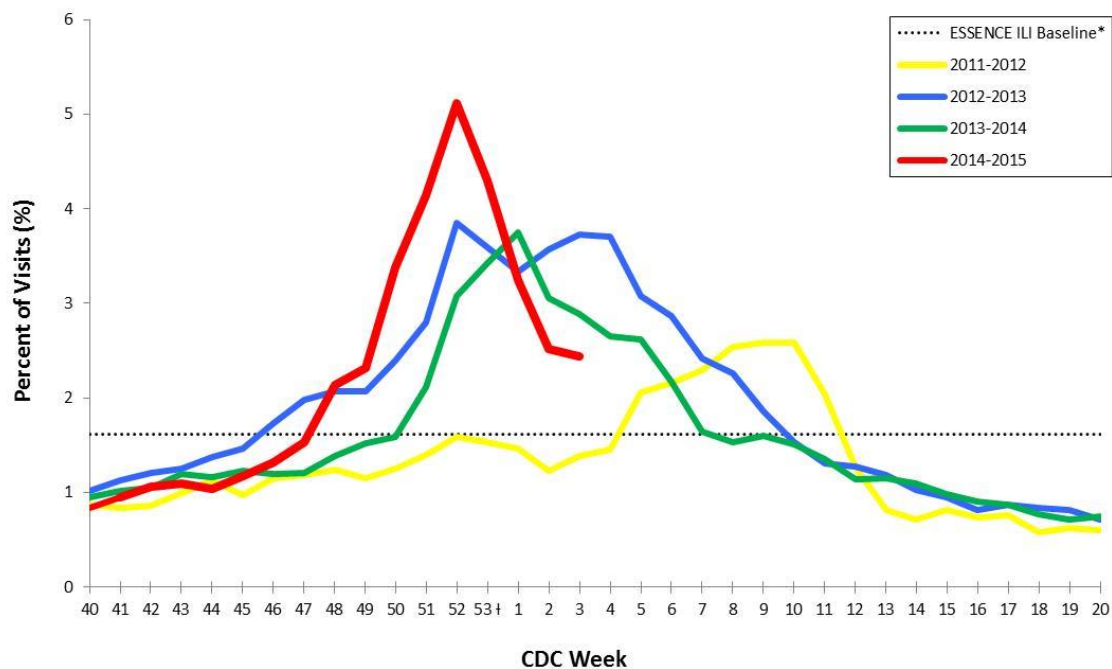
\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)



**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

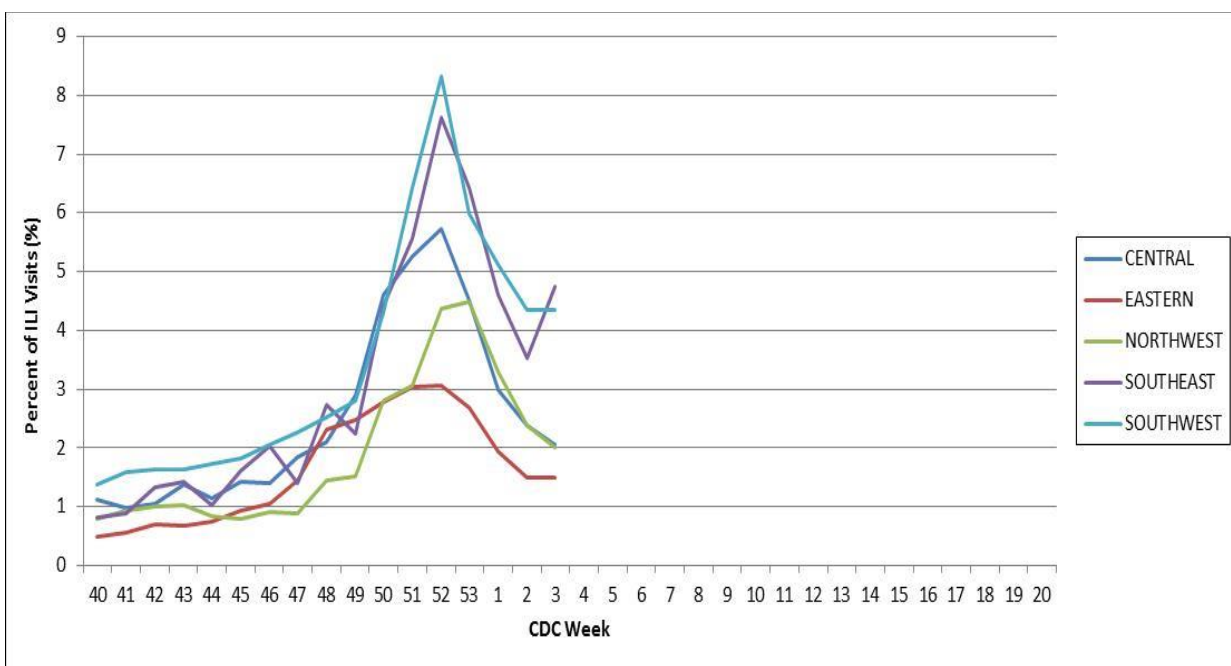
\*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 3 (January 18 – January 24, 2015)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	2.7%	3.8%	2.0%	1.4%	1.3%	2.0%
Central	5.1%	3.5%	1.7%	1.1%	1.4%	2.1%
Eastern	2.4%	2.3%	1.5%	1.1%	0.9%	1.5%
Southeast	13.2%	10.6%	4.2%	2.1%	1.7%	4.8%
Southwest	13.0%	10.1%	2.7%	2.0%	1.6%	4.4%
Statewide	5.1%	5.2%	2.0%	1.4%	1.3%	2.4%

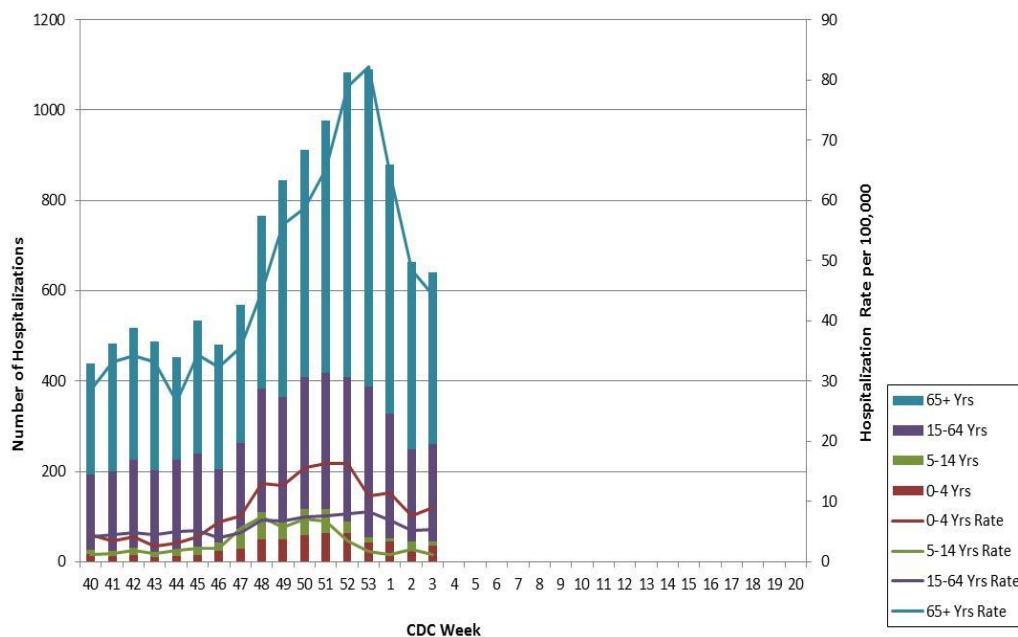
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
 \*2014-2015 Season-to-Date through the week ending January 24, 2015 (Week 3)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).  
 \*2014-2015 Season-to-Date through the week ending January 24, 2015 (Week 3)

## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 4: January 25 – January 31, 2015

*All data are preliminary and may change as more reports are received.*

### Summary:

- Reported influenza activity in Missouri continues to decline, though the estimated influenza activity level remains at Widespread.<sup>2</sup>
- A season-to-date total of 40,161 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A continued to be the predominant influenza type accounting for 83% of reported cases during Week 4. All five of the laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 4 were influenza A (H3).
- CDC has antigenically characterized ten influenza isolates so far this influenza season from Missouri: four A (H3N2) A/TEXAS/50/2012-like, four A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, one B/MASSACHUSETTS/02/2012-like, and one B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus and accounts for 66.7% of viruses from U.S. laboratories from October 1, 2014 – January 24, 2015. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 7.20% and 2.3% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years (50 cases per 100,000 population). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 119 deaths during Week 3, resulting in a season-to-date total of 1,468 P&I associated deaths in Missouri<sup>5</sup>.
- No outbreaks of influenza or ILI were reported during Week 4 in Missouri. No ILI-associated school closures were reported during Week 4.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Widespread is defined as: Increased ILI and/or institutional outbreaks (ILI or lab confirmed) in at least half of the regions AND recent (within the past 3 weeks) lab confirmed influenza in the state.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=ba76b15e14074c0f91f65c403e2f12bb>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 4
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 2 - 4 (January 11 – January 31, 2015)**

Influenza Type	Week 2	Week 3	Week 4	2014-2015* Season-to-Date
Influenza A	2,130	1,761	831	37,231
Influenza B	198	172	134	1,929
Influenza Unknown Or Untyped	71	67	36	1,001
Total	2,399	2,000	1,001	40,161

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 4 (January 25 – January 31, 2015)**

Age Group	Week 4 Cases	Week 4 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	190	50	7,659	2,020
05-14	240	31	11,705	1,490
15-64	414	10	14,829	373
65+	157	18	5,968	676
Total	1,001	17	40,161	667

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 4 (January 25 – January 31, 2015)**

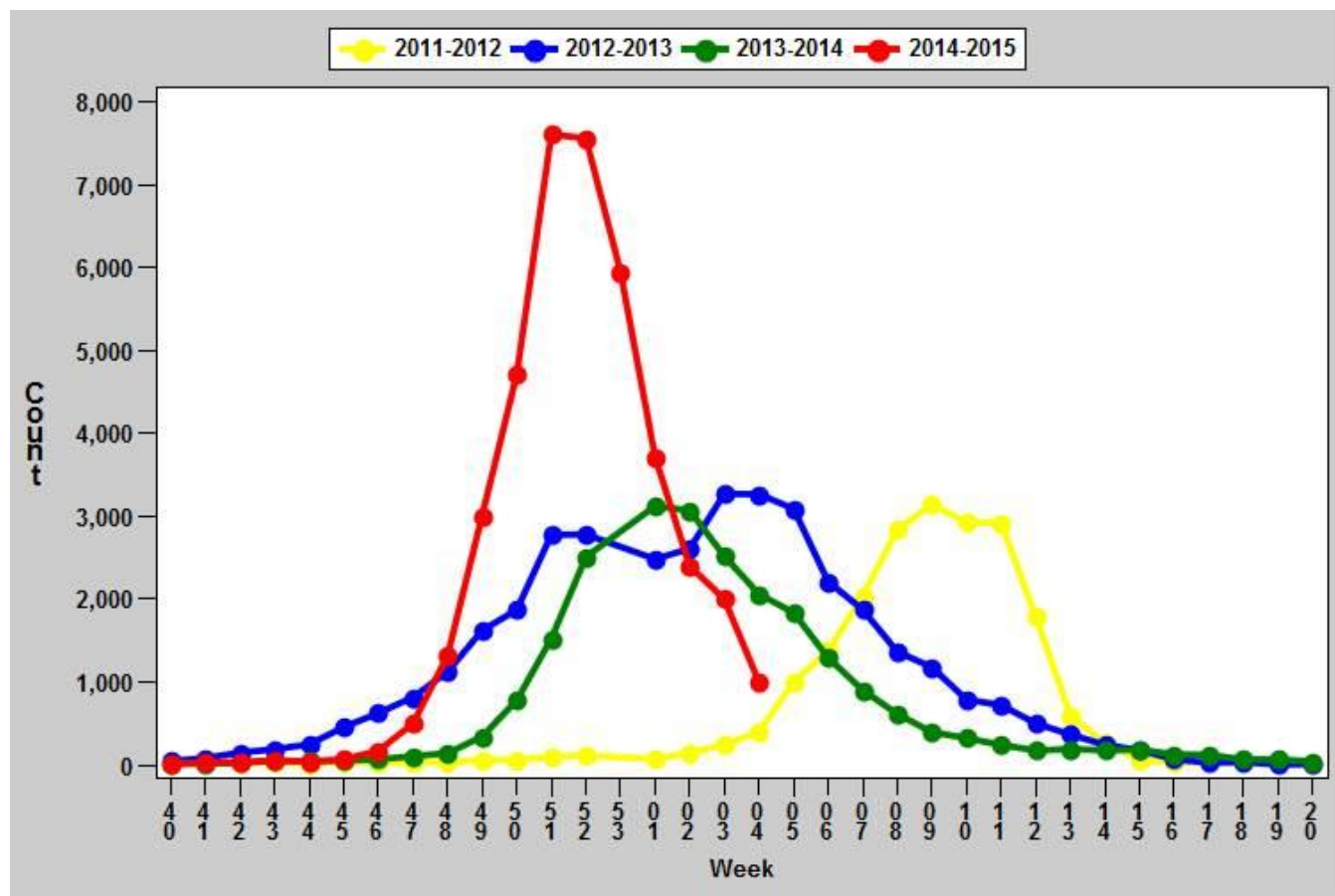
District	Week 4 Cases	Week 4 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	75	11	5,493	820
EA	149	7	11,572	516
NW	387	25	11,737	743
SE	161	34	4,713	993
SW	229	22	6,646	629
<b>Total</b>	<b>1,001</b>	<b>17</b>	<b>40,161</b>	<b>667</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

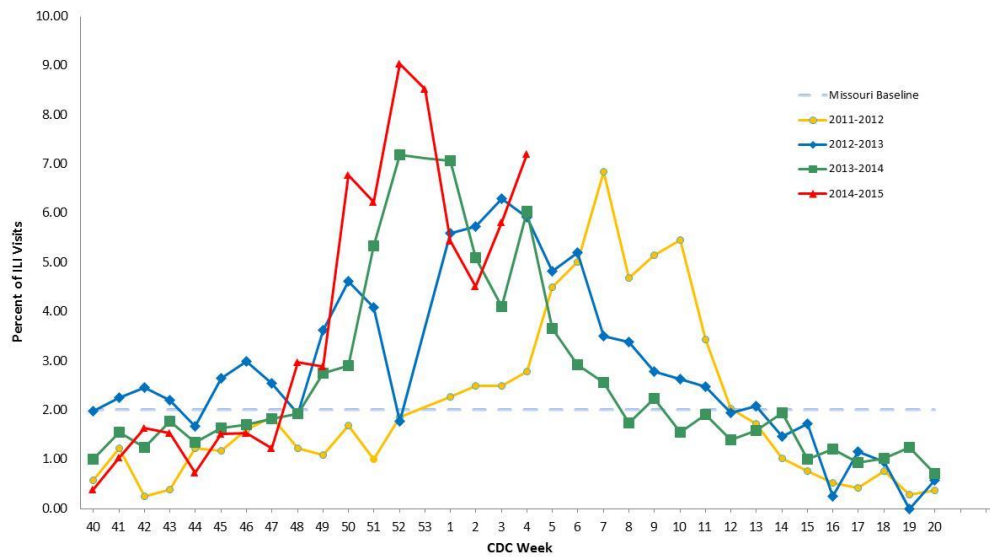
**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***



<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

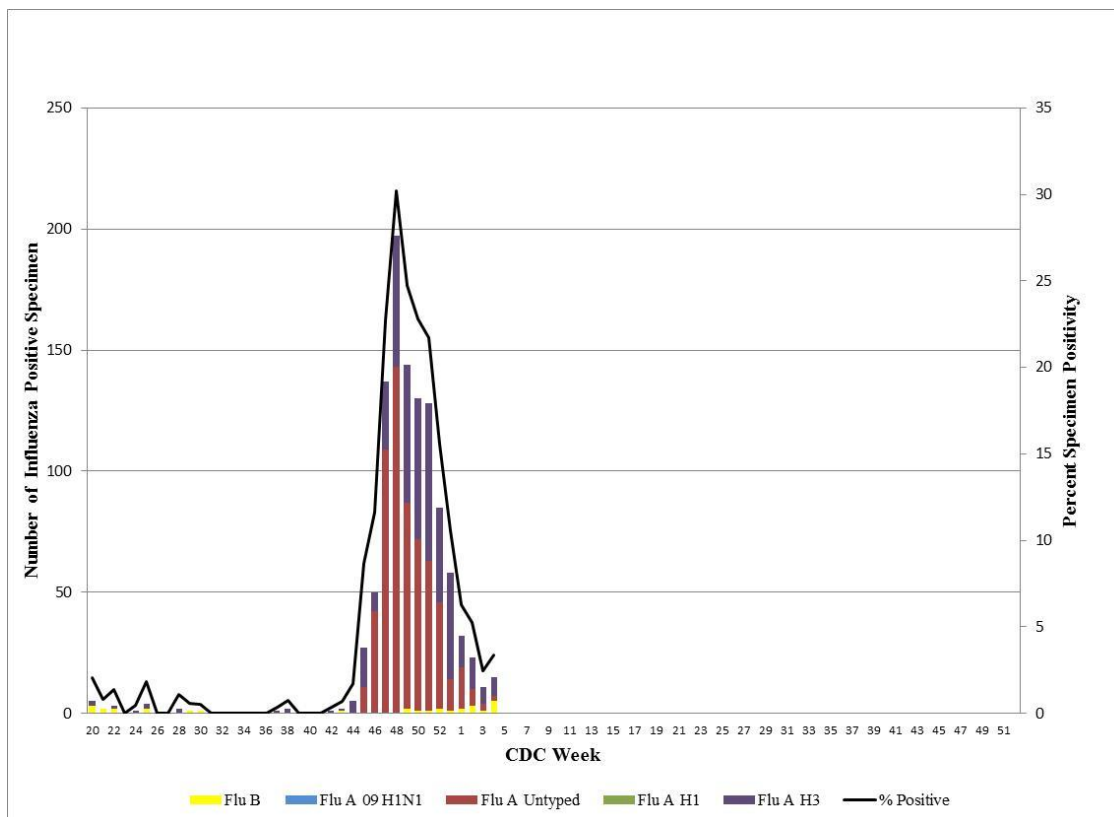
\*2014-2015 Season-to-Date through the week ending January 31, 2015 (Week 4). Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending January 31, 2015 (Week 4)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) and Rapid Influenza Tests**



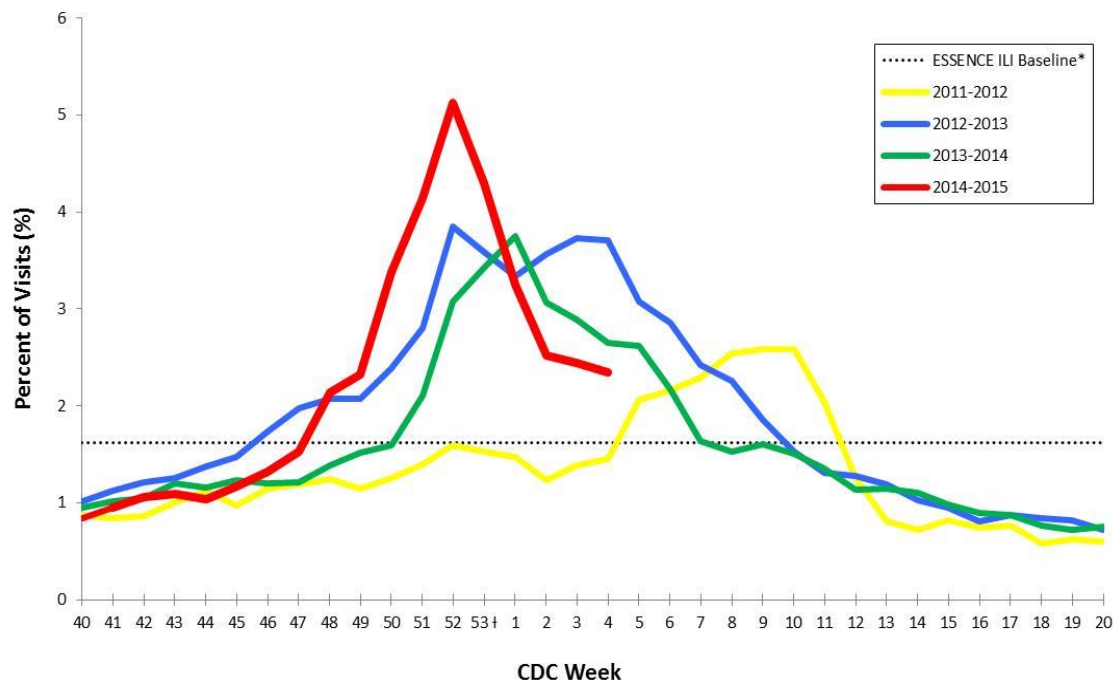
\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)



**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

\*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

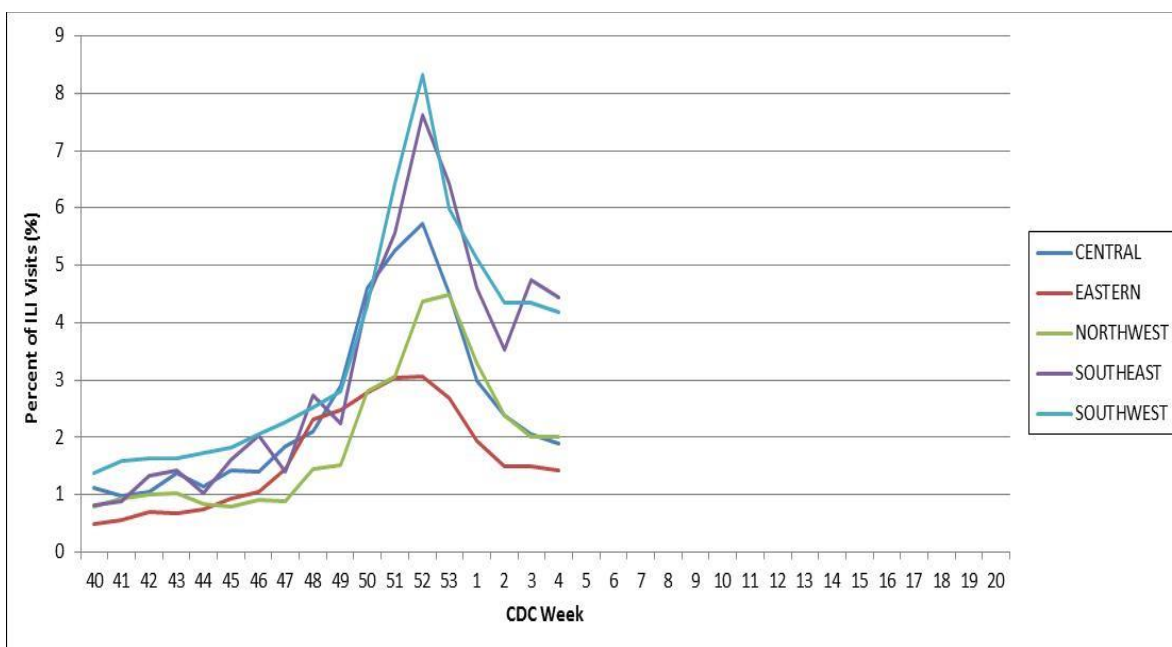
**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 4 (January 25 – January 31, 2015)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	4.2%	2.9%	1.6%	1.4%	1.7%	2.0%
Central	4.9%	3.0%	1.5%	1.4%	1.3%	1.9%
Eastern	2.5%	1.8%	1.4%	1.2%	0.8%	1.4%
Southeast	13.6%	9.4%	3.3%	1.7%	1.8%	4.4%
Southwest	12.4%	10.4%	2.3%	1.5%	1.7%	4.2%
Statewide	5.5%	4.6%	1.7%	1.4%	1.3%	2.3%

<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

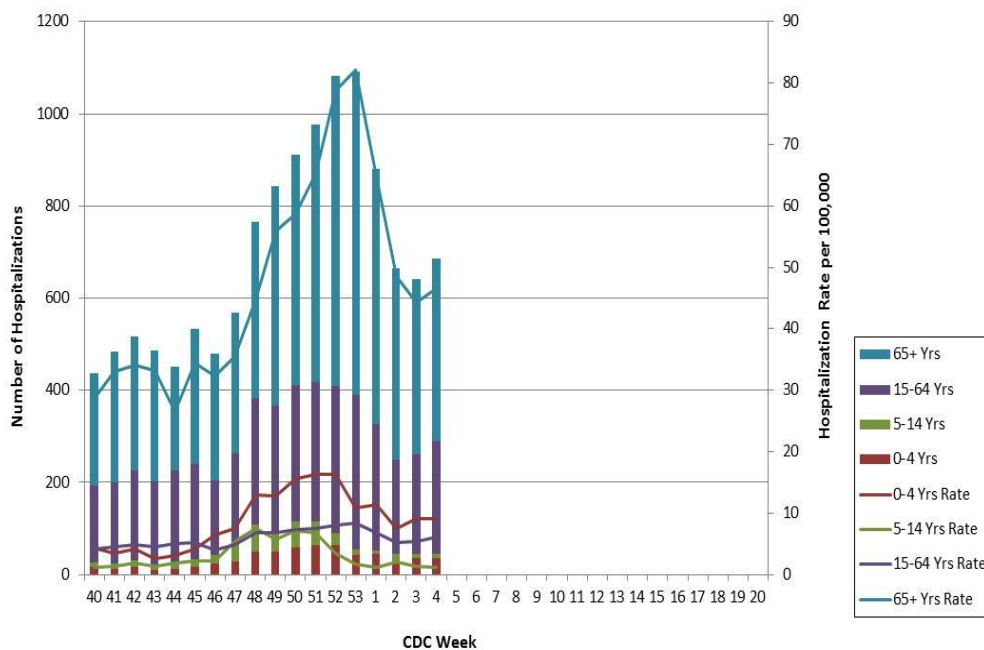


**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
 \*2014-2015 Season-to-Date through the week ending January 31, 2015 (Week 4)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).  
 \*2014-2015 Season-to-Date through the week ending January 31, 2015 (Week 4)

## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 5: February 1 – February 7, 2015

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri has decreased to Regional.<sup>2</sup>
- A season-to-date total of 41,850 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A continued to be the predominant influenza type accounting for 80% of reported cases during Week 5. All three of the laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 5 were influenza A (H3).
- CDC has antigenically characterized 11 influenza isolates so far this influenza season from Missouri: five A (H3N2) A/TEXAS/50/2012-like, four A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, one B/MASSACHUSETTS/02/2012-like, and one B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus and accounts for 68.7% of viruses from U.S. laboratories from October 1, 2014 – January 31, 2015. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 3.69% and 2.4% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years (35 cases per 100,000 population). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 111 deaths during Week 4, resulting in a season-to-date total of 1,579 P&I associated deaths in Missouri<sup>5</sup>.
- No outbreaks of influenza or ILI were reported during Week 5 in Missouri. No ILI-associated school closures were reported during Week 5.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Regional is defined as: Increased ILI in at least 2 regions but less than half of the regions, AND recent (within the past 3 weeks) lab confirmed influenza in the affected regions. OR Institutional outbreaks (ILI or lab confirmed) in at least 2 regions, but fewer than half of the regions, AND recent lab confirmed influenza in the affected regions.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=891e5ee61509408294e5ca7855434d84>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 5
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 3 - 5 (January 18 – February 7, 2015)**

Influenza Type	Week 3	Week 4	Week 5	2014-2015* Season-to-Date
Influenza A	1,878	1,218	581	38,622
Influenza B	182	232	128	2,168
Influenza Unknown Or Untyped	69	70	15	1,060
Total	2,129	1,520	724	41,850

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 5 (February 1 – February 7, 2015)**

Age Group	Week 5 Cases	Week 5 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	133	35	7,965	2,100
05-14	193	25	12,162	1,548
15-64	274	7	15,529	391
65+	124	14	6,194	701
Total	724	12	41,850	695

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 5 (February 1 – February 7, 2015)**

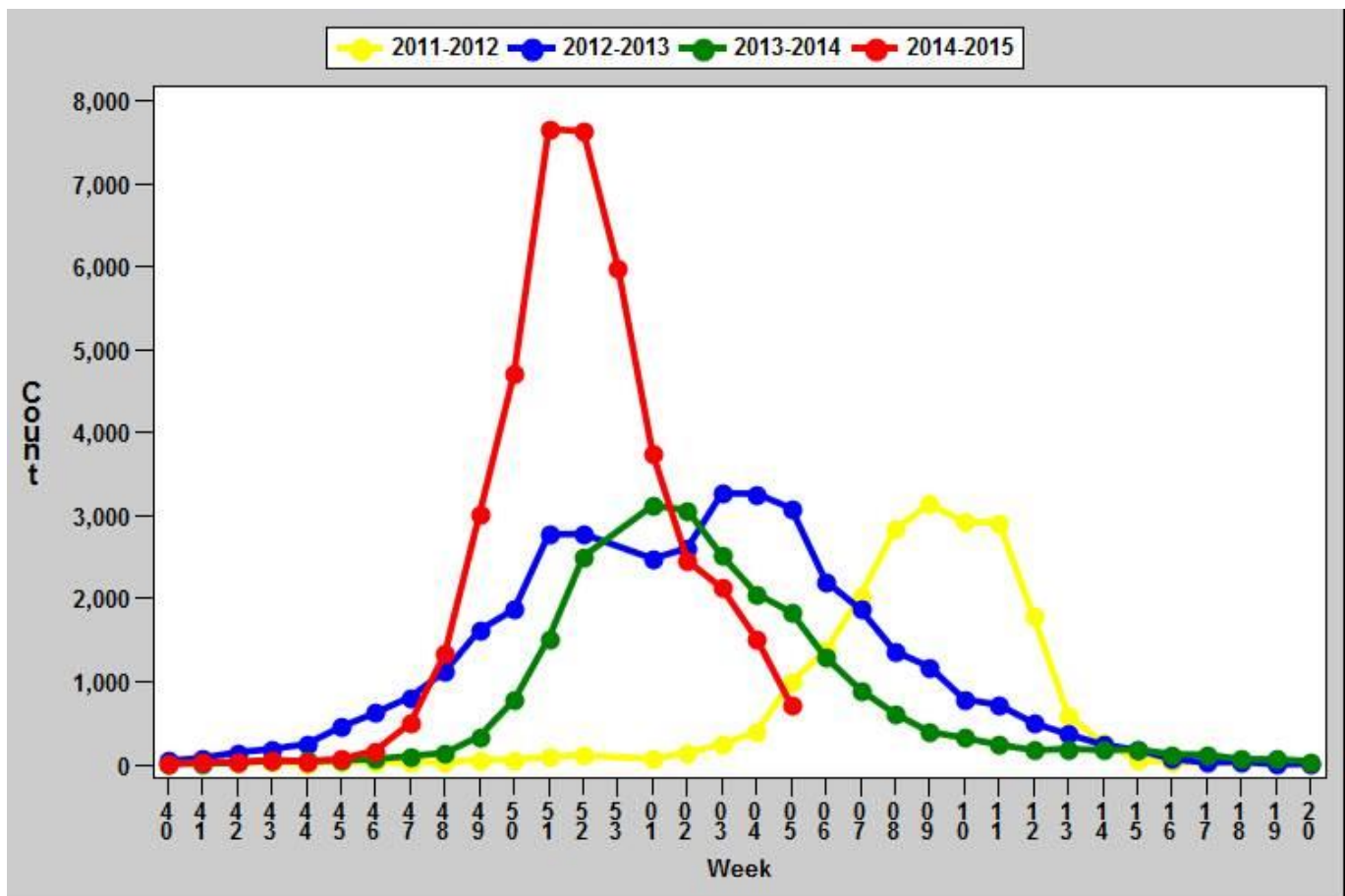
District	Week 5 Cases	Week 5 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	40	6	5,626	839
EA	91	4	11,672	521
NW	268	17	12,203	773
SE	151	32	4,990	1,051
SW	174	16	7,359	696
<b>Total</b>	<b>724</b>	<b>12</b>	<b>41,850</b>	<b>695</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

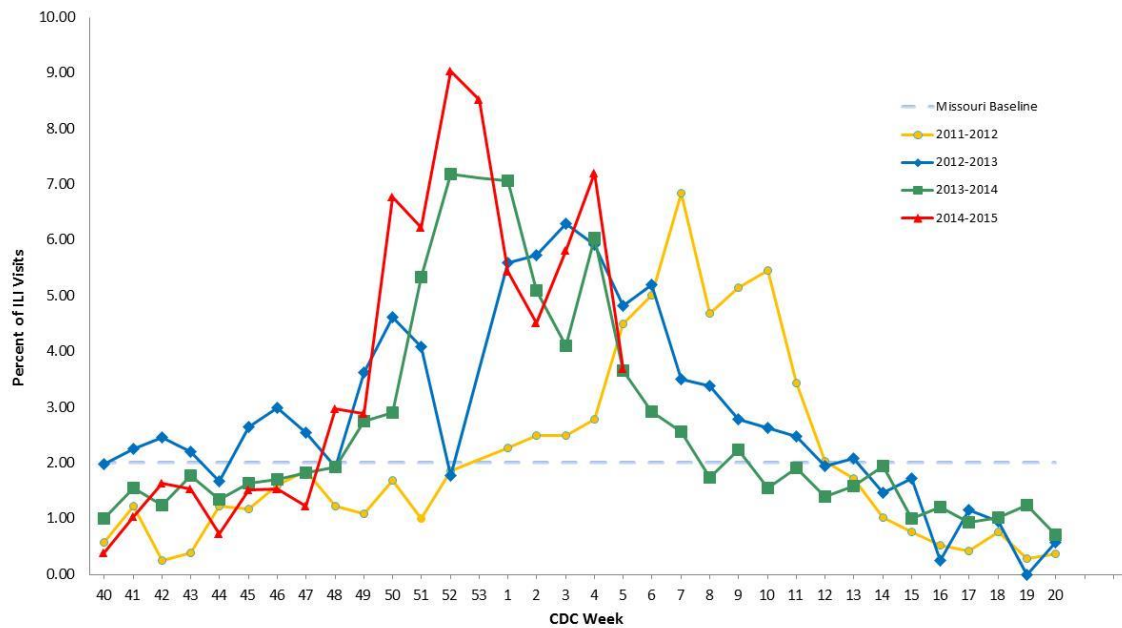
**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***



<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

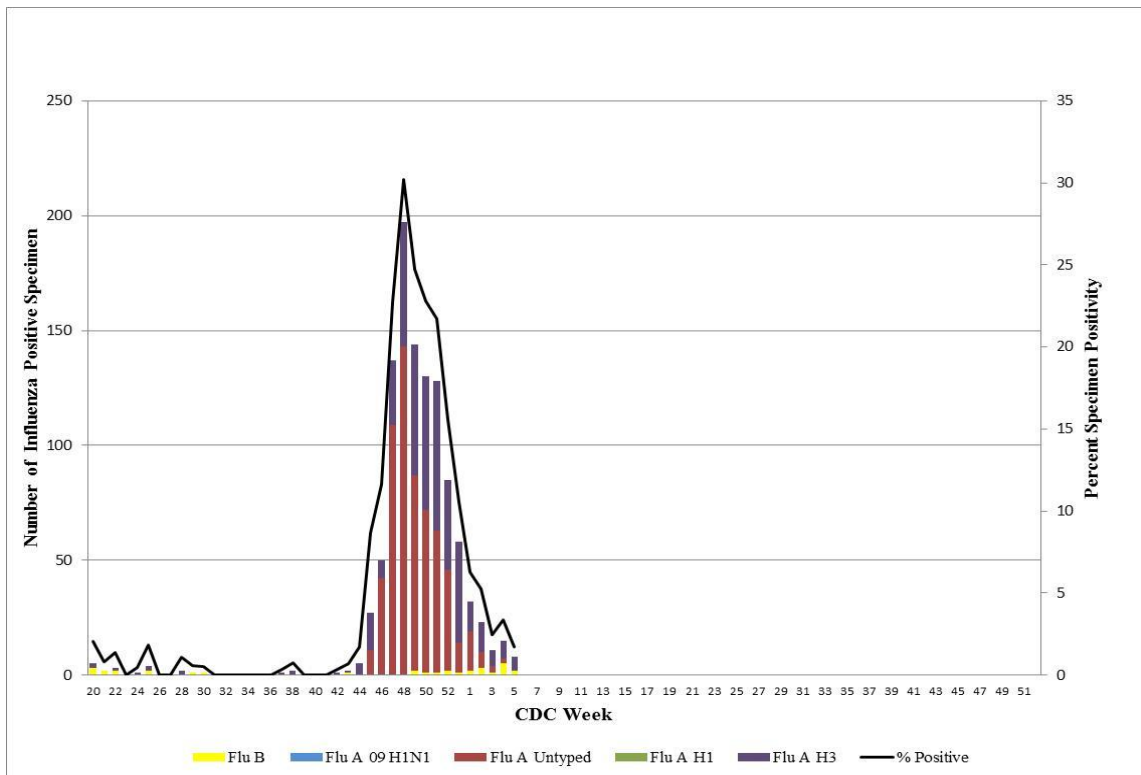
\*2014-2015 Season-to-Date through the week ending February 7, 2015 (Week 5). Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending February 7, 2015 (Week 5)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) and Rapid Influenza Tests**

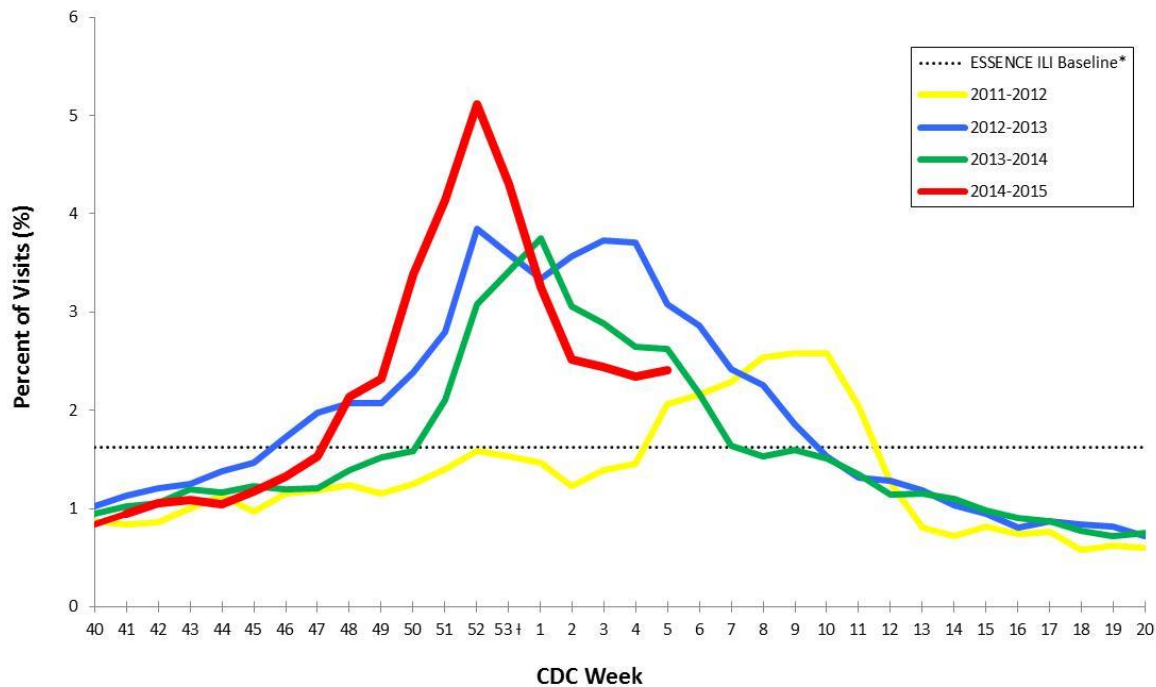


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

\*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

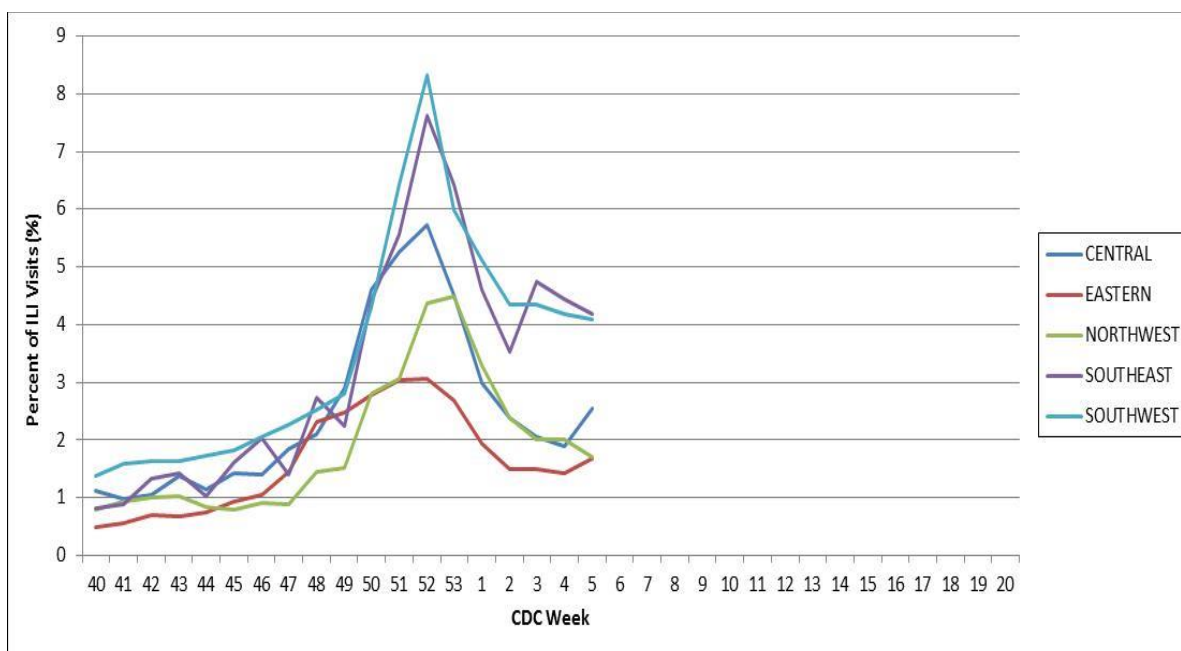
**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 5 (February 1 – February 7, 2015)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	2.8%	2.4%	1.7%	1.4%	0.6%	1.7%
Central	7.5%	3.1%	1.9%	2.0%	1.8%	2.6%
Eastern	3.4%	2.5%	1.5%	1.2%	1.0%	1.7%
Southeast	14.9%	8.1%	2.8%	1.7%	1.2%	4.2%
Southwest	13.1%	9.1%	2.2%	1.4%	2.0%	4.1%
Statewide	6.0%	4.4%	1.8%	1.4%	1.2%	2.4%

<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

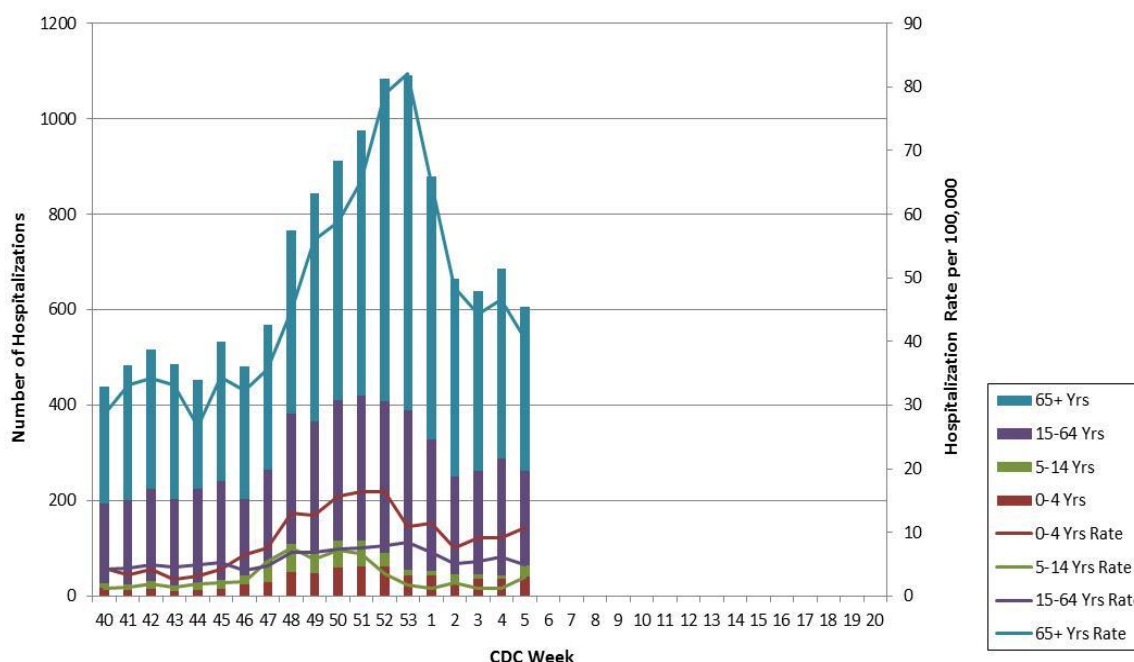


**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
 \*2014-2015 Season-to-Date through the week ending February 7, 2015 (Week 5)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).  
 \*2014-2015 Season-to-Date through the week ending February 7, 2015 (Week 5)



## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 7: February 15 – February 21, 2015

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri is Regional.<sup>2</sup>
- A season-to-date total of 43,782 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A remains the predominant type reported this season. Influenza B viruses accounted for 49% of reported cases during Week 7. The laboratory-confirmed influenza case reported by the Missouri State Public Health Laboratory (MSPHL) during Week 7 was influenza B.
- CDC has antigenically characterized 11 influenza isolates so far this influenza season from Missouri: five A (H3N2) A/TEXAS/50/2012-like, four A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, one B/MASSACHUSETTS/02/2012-like, and one B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus and accounts for 69.3% of viruses from U.S. laboratories from October 1, 2014 – February 14, 2015. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 2.97% and 2.2% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years (19 cases per 100,000 population). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records increased to 103 deaths during Week 6, resulting in a season-to-date total of 1,775 P&I associated deaths in Missouri<sup>5</sup>.
- No outbreaks of influenza or ILI were reported during Week 7 in Missouri. No ILI-associated school closures were reported during Week 7.
- National influenza activity and surveillance information is prepared by the Centers for Disease Control and Prevention (CDC). The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Regional is defined as: Increased ILI in at least 2 regions but less than half of the regions, AND recent (within the past 3 weeks) lab confirmed influenza in the affected regions. OR Institutional outbreaks (ILI or lab confirmed) in at least 2 regions, but fewer than half of the regions, AND recent lab confirmed influenza in the affected regions.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=10ae608d5348483e9ba1072382052d84>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 7
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 5 - 7 (February 1 – February 21, 2015)**

Influenza Type	Week 5	Week 6	Week 7	2014-2015* Season-to-Date
Influenza A	893	449	216	39,796
Influenza B	304	249	221	2,845
Influenza Unknown Or Untyped	42	29	14	1,141
Total	1,239	727	451	43,782

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 7 (February 15 – February 21, 2015)**

Age Group	Week 7 Cases	Week 7 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	71	19	8,253	2,176
05-14	117	15	12,679	1,614
15-64	216	5	16,420	413
65+	47	5	6,430	728
Total	451	7	43,782	727

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 7 (February 15 – February 21, 2015)**

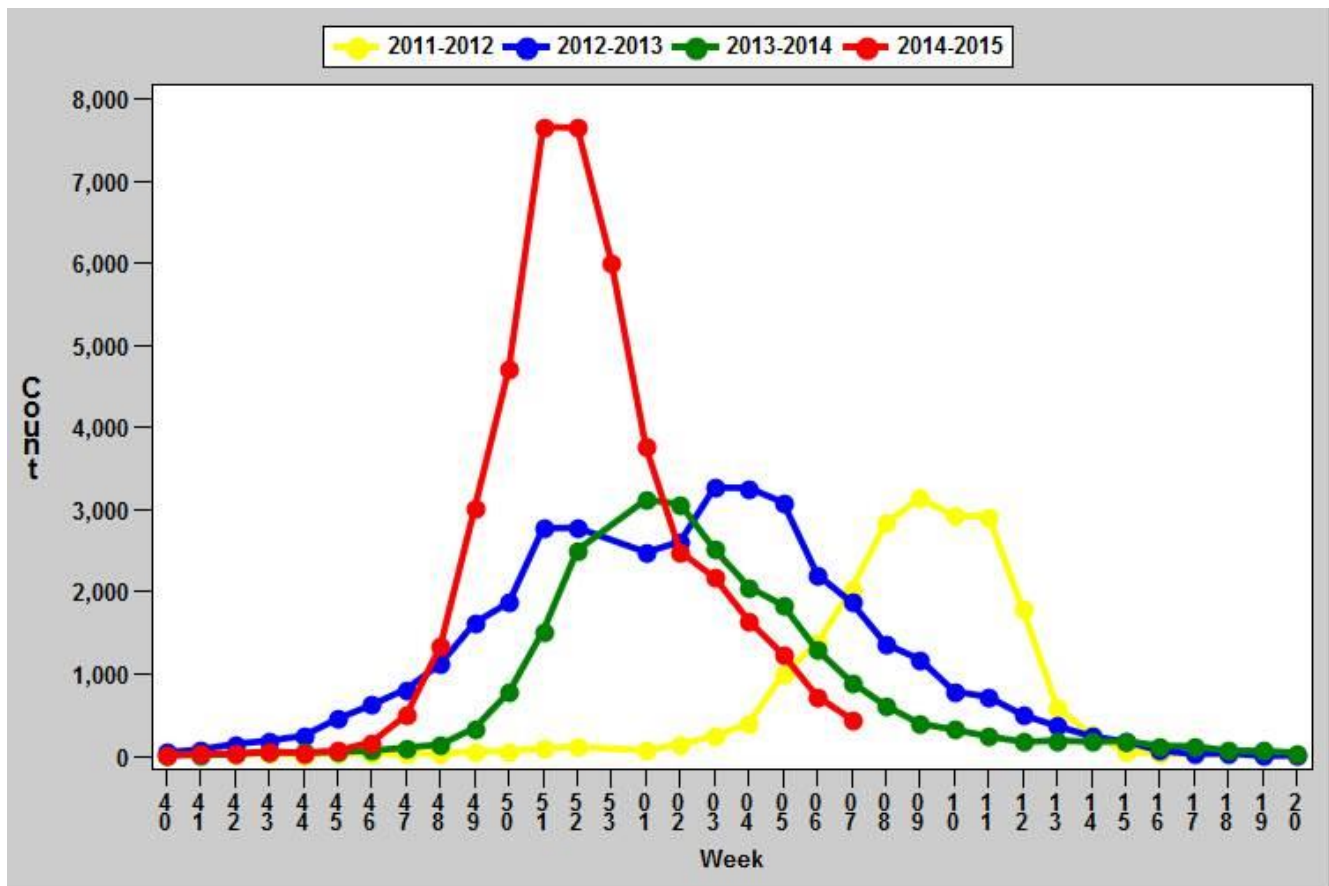
District	Week 7 Cases	Week 7 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	97	14	5,904	881
EA	81	4	11,974	534
NW	113	7	12,783	810
SE	65	14	5,215	1,098
SW	95	9	7,906	748
<b>Total</b>	<b>451</b>	<b>7</b>	<b>43,782</b>	<b>727</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

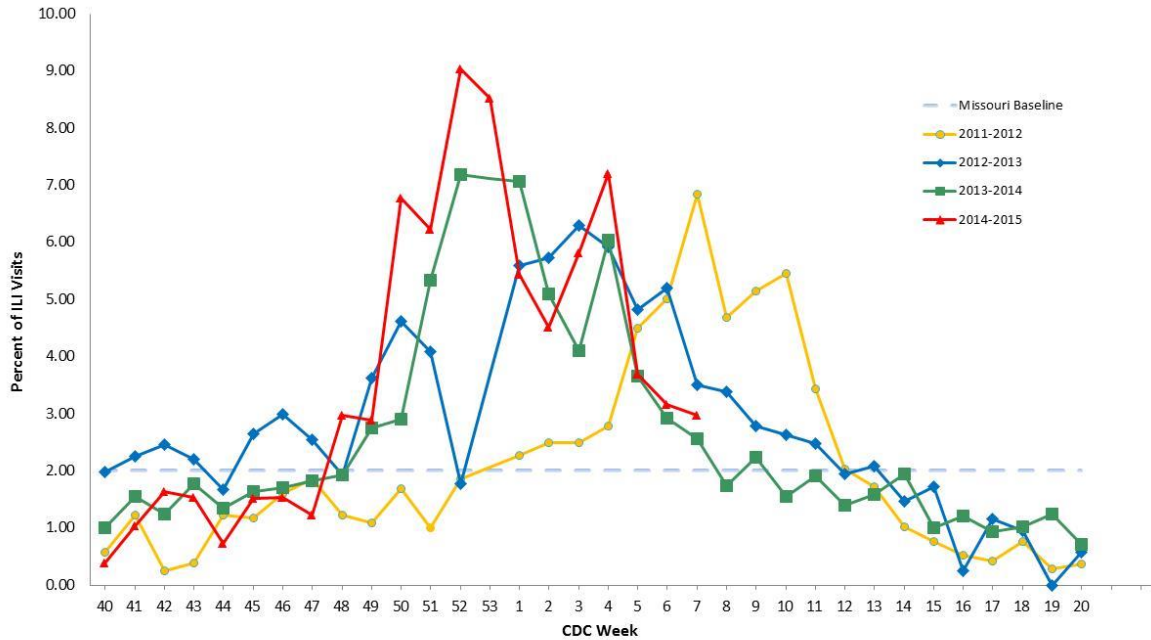
**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***



<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

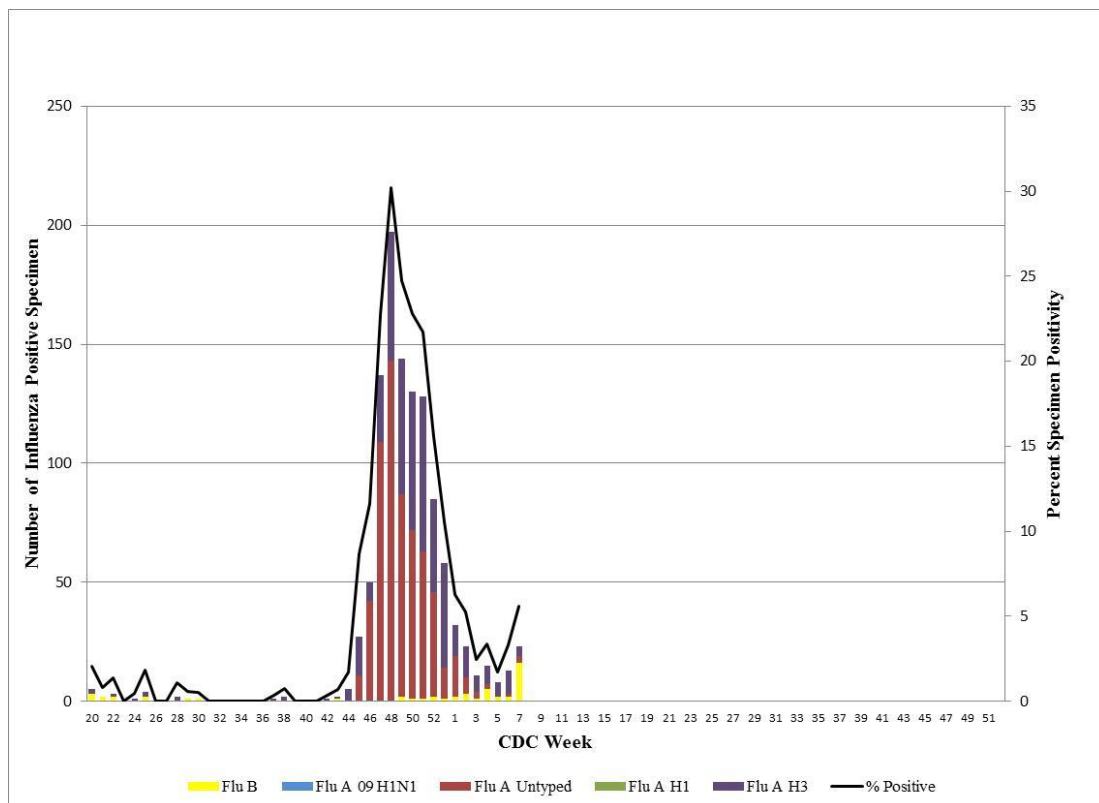
\*2014-2015 Season-to-Date through the week ending February 21, 2015 (Week 7). Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending February 21, 2015 (Week 7)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) and Rapid Influenza Tests**

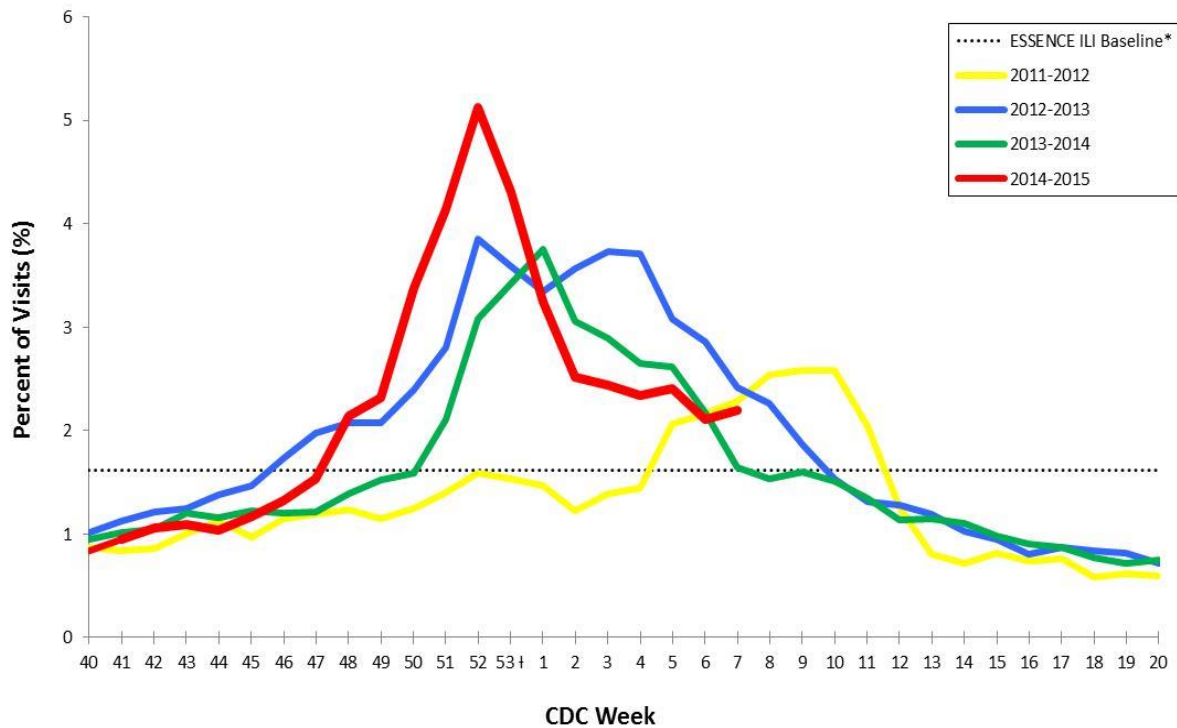


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

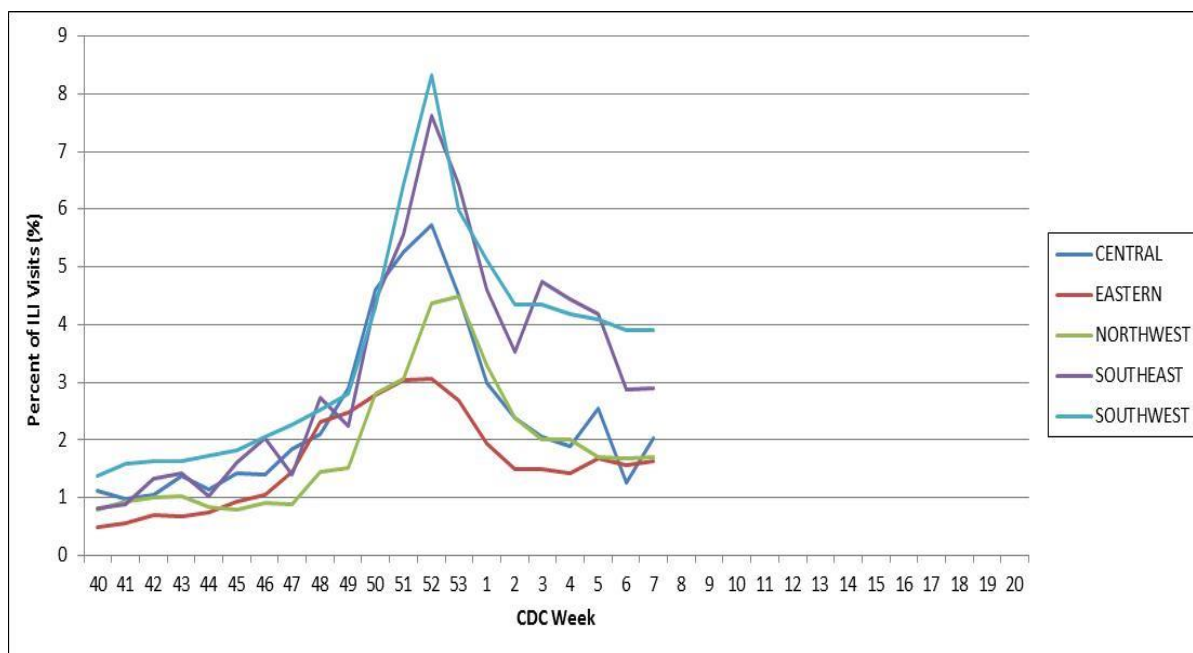
\*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 7 (February 15 – February 21, 2015)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	2.8%	3.0%	1.6%	1.4%	0.8%	1.7%
Central	4.2%	3.3%	2.3%	0.8%	1.0%	2.0%
Eastern	3.4%	2.8%	1.5%	1.2%	0.7%	1.6%
Southeast	9.6%	6.7%	1.6%	1.5%	1.1%	2.9%
Southwest	10.7%	8.0%	2.6%	2.3%	1.2%	3.9%
Statewide	5.2%	4.2%	1.8%	1.4%	0.9%	2.2%

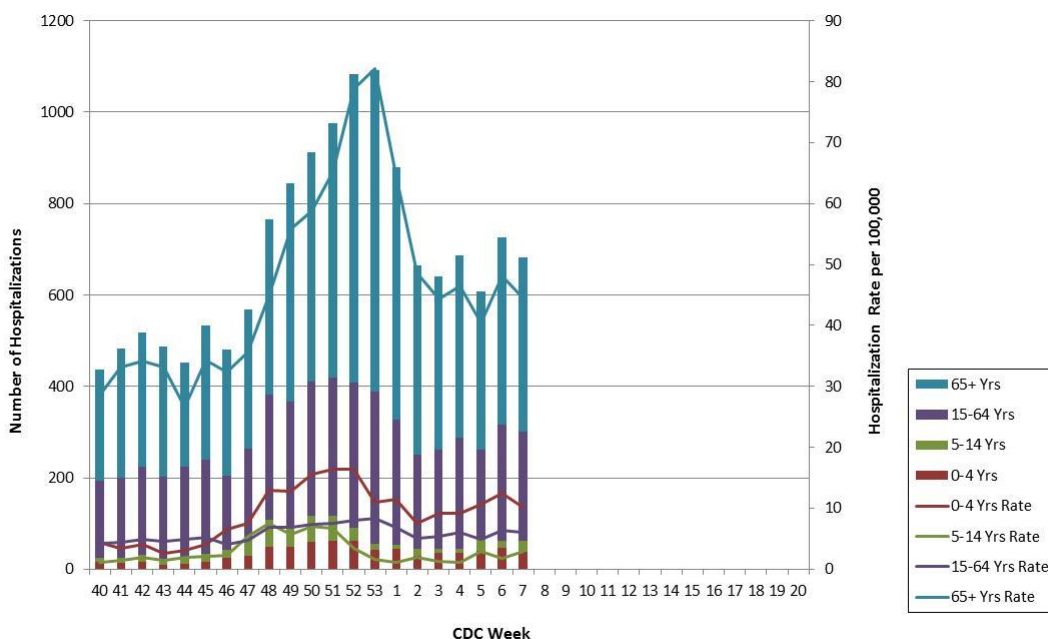
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
 \*2014-2015 Season-to-Date through the week ending February 21, 2015 (Week 7)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 96 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).  
 \*2014-2015 Season-to-Date through the week ending February 21, 2015 (Week 7)

## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)





# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 8: February 22 – February 28, 2015

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri is Regional.<sup>2</sup>
- A season-to-date total of 44,593 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A remains the predominant type reported this season. Influenza B viruses accounted for 61% of reported cases during Week 8. No laboratory-confirmed influenza cases were reported by the Missouri State Public Health Laboratory (MSPHL) during Week 8.
- The Centers for Disease Control and Prevention (CDC) has antigenically characterized 11 influenza isolates so far this influenza season from Missouri: five A (H3N2) A/TEXAS/50/2012-like, four A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, one B/MASSACHUSETTS/02/2012-like, and one B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus and accounts for 69.7% of viruses from U.S. laboratories from October 1, 2014 – February 21, 2015. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 2.67% and 2.0% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years (16 cases per 100,000 population). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records increased to 116 deaths during Week 7, resulting in a season-to-date total of 1,891 P&I associated deaths in Missouri<sup>5</sup>.
- No outbreaks of influenza or ILI were reported during Week 8 in Missouri. No ILI-associated school closures were reported during Week 8.
- National influenza activity and surveillance information is prepared by the CDC. The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Regional is defined as: Increased ILI in at least 2 regions but less than half of the regions, AND recent (within the past 3 weeks) lab confirmed influenza in the affected regions. OR Institutional outbreaks (ILI or lab confirmed) in at least 2 regions, but fewer than half of the regions, AND recent lab confirmed influenza in the affected regions.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=7d3518410ef2420aa8974a38ed7a9474>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 8
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 6 - 8 (February 8 – February 28, 2015)**

Influenza Type	Week 6	Week 7	Week 8	2014-2015* Season-to-Date
Influenza A	506	310	130	40,234
Influenza B	274	312	210	3,190
Influenza Unknown Or Untyped	38	28	5	1,169
Total	818	650	345	44,593

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 8 (February 22 – February 28, 2015)**

Age Group	Week 8 Cases	Week 8 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	60	16	8,379	2,209
05-14	68	9	12,875	1,639
15-64	159	4	16,781	422
65+	58	7	6,558	743
Total	345	6	44,593	741

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 8 (February 22 – February 28, 2015)**

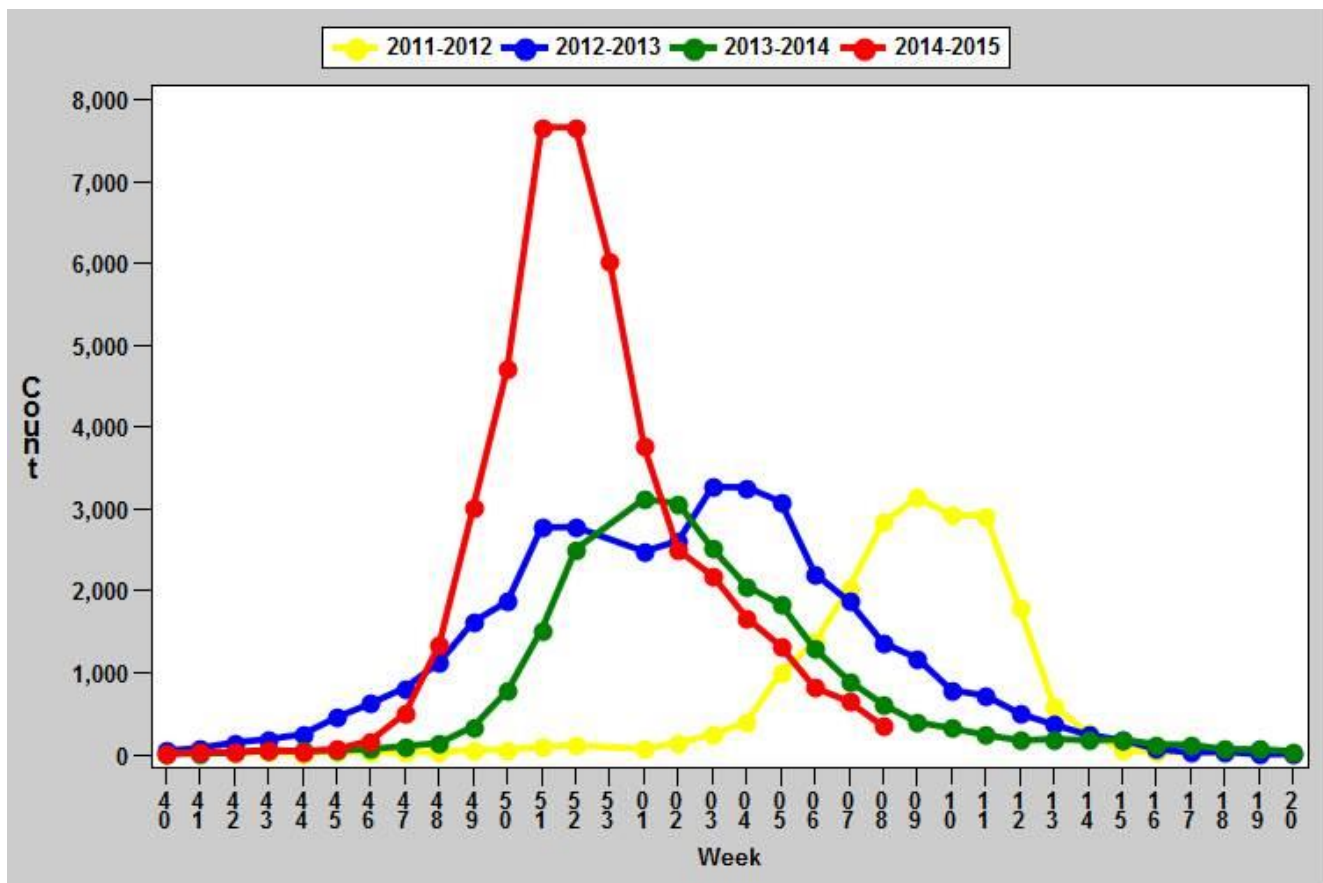
District	Week 8 Cases	Week 8 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	40	6	6,043	902
EA	146	7	12,130	541
NW	98	6	13,004	824
SE	44	9	5,307	1,118
SW	17	2	8,109	767
<b>Total</b>	<b>345</b>	<b>6</b>	<b>44,593</b>	<b>741</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

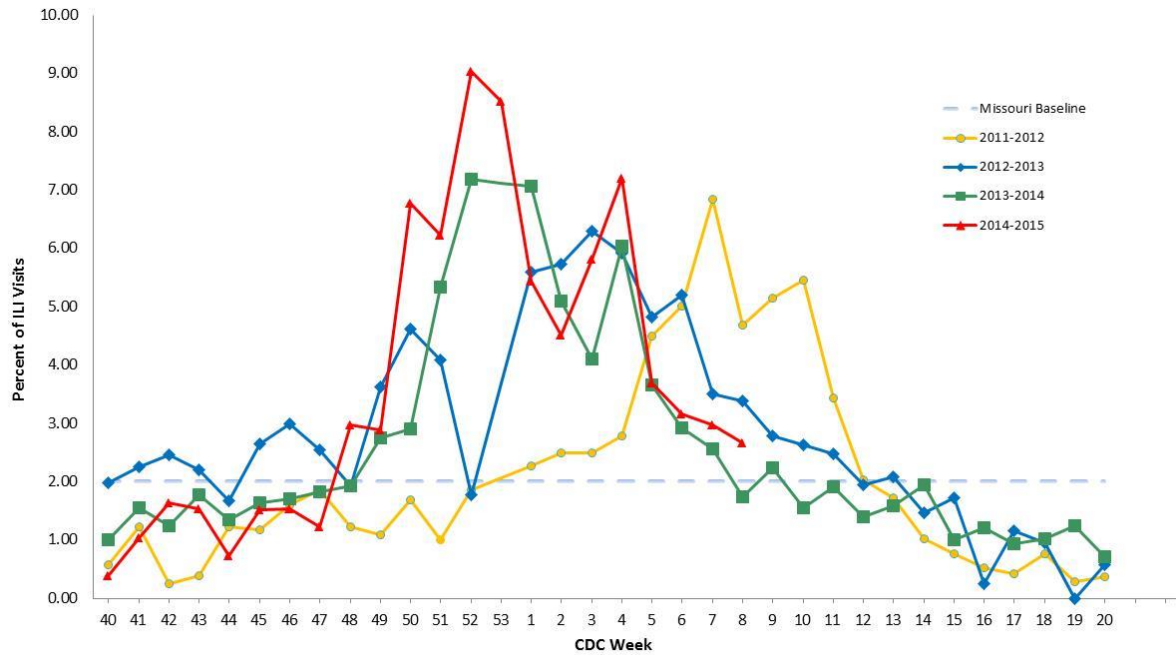
**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***



<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

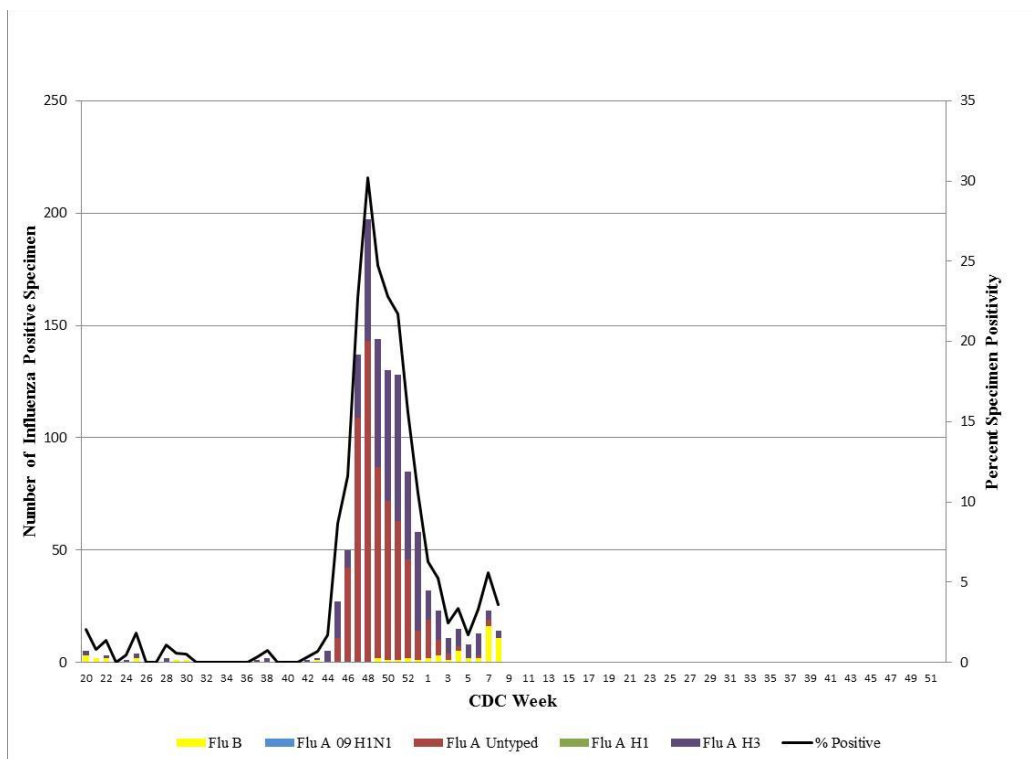
\*2014-2015 Season-to-Date through the week ending February 28, 2015 (Week 8). Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending February 28, 2015 (Week 8)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) and Rapid Influenza Tests**

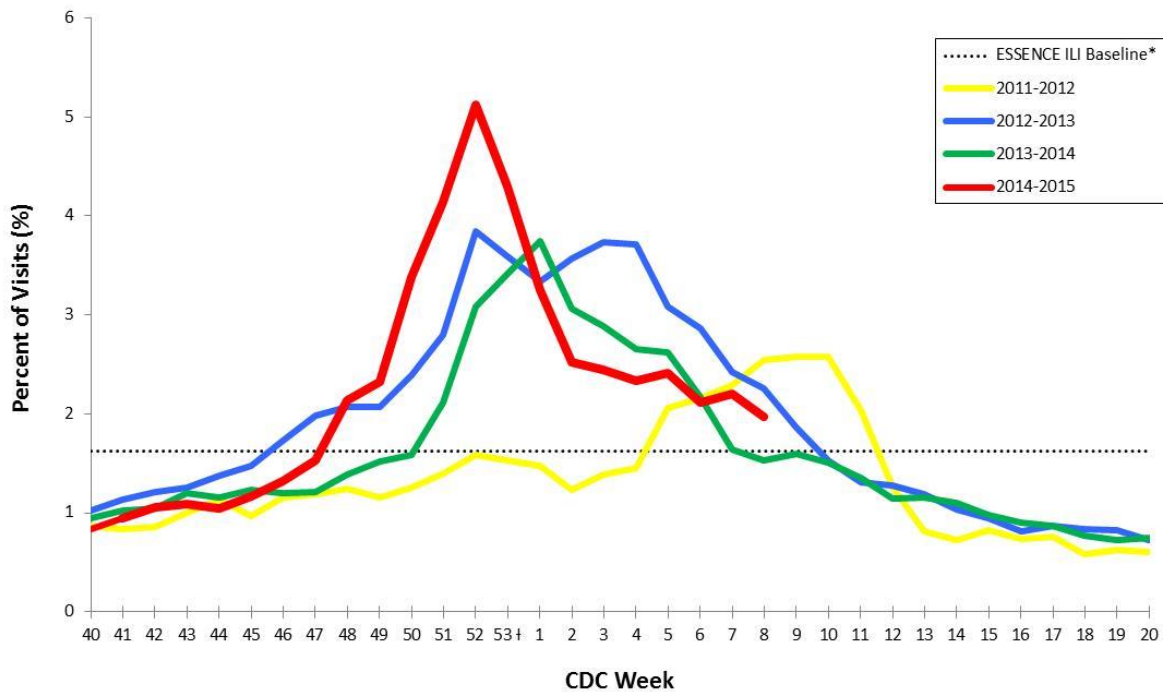


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

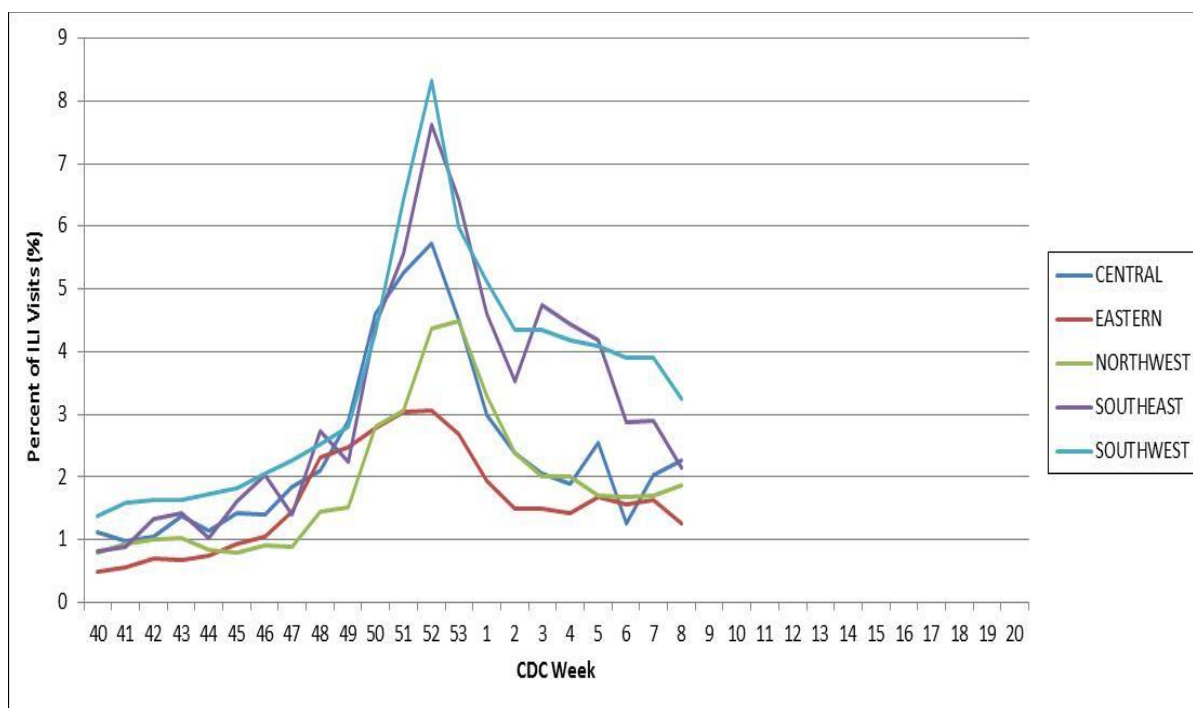
\*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 8 (February 22 – February 28, 2015)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	3.6%	3.1%	1.8%	1.5%	0.7%	1.9%
Central	6.4%	4.3%	2.3%	0.7%	0.4%	2.3%
Eastern	2.8%	1.6%	1.4%	0.9%	0.5%	1.3%
Southeast	7.9%	3.5%	1.3%	1.3%	1.3%	2.2%
Southwest	10.1%	6.7%	2.2%	1.9%	0.9%	3.3%
Statewide	5.1%	3.4%	1.8%	1.3%	0.7%	2.0%

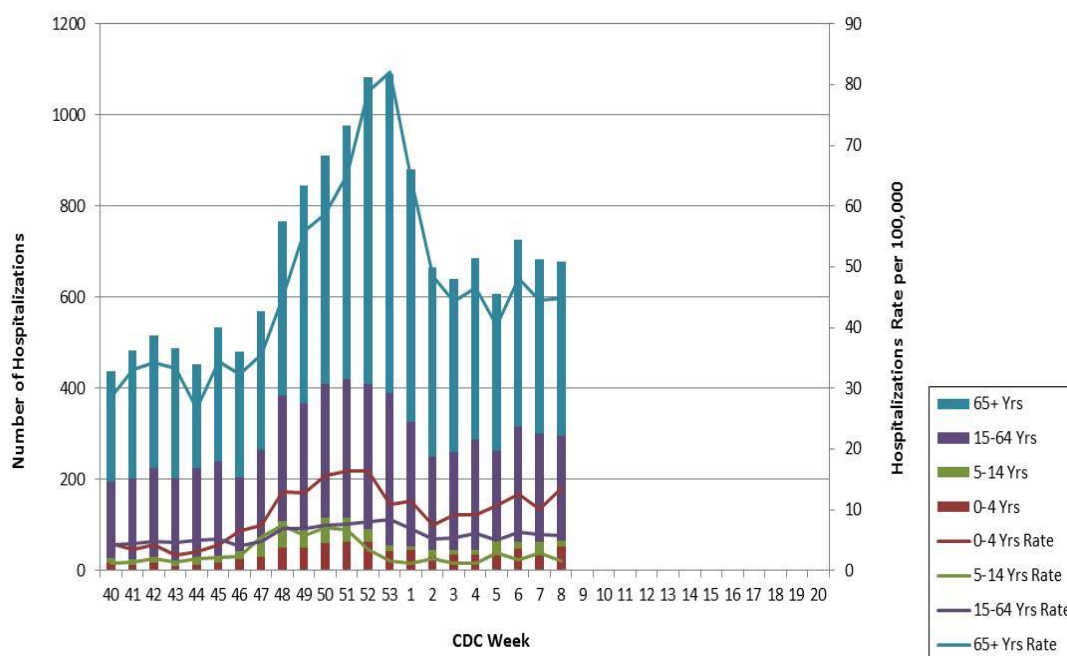
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
\*2014-2015 Season-to-Date through the week ending February 28, 2015 (Week 8)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).  
\*2014-2015 Season-to-Date through the week ending February 28, 2015 (Week 8)

## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)





# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 9: March 1 – March 7, 2015

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri is Regional.<sup>2</sup>
- A season-to-date total of 45,742 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A remains the predominant type reported this season. Influenza B viruses accounted for 74% of reported cases during Week 9. Each of the two laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 9, were influenza B.
- The Centers for Disease Control and Prevention (CDC) has antigenically characterized 13 influenza isolates so far this influenza season from Missouri: five A (H3N2) A/TEXAS/50/2012-like, six A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, one B/MASSACHUSETTS/02/2012-like, and one B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus and accounts for 71.9% of viruses from U.S. laboratories from October 1, 2014 – February 28, 2015. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 3.3% and 1.9% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years (23 cases per 100,000 population). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 97 deaths during Week 8, resulting in a season-to-date total of 1,988 P&I associated deaths in Missouri<sup>5</sup>.
- No outbreaks of influenza or ILI were reported during Week 9 in Missouri. No ILI-associated school closures were reported during Week 9.
- National influenza activity and surveillance information is prepared by the CDC. The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Regional is defined as: Increased ILI in at least 2 regions but less than half of the regions, AND recent (within the past 3 weeks) lab confirmed influenza in the affected regions. OR Institutional outbreaks (ILI or lab confirmed) in at least 2 regions, but fewer than half of the regions, AND recent lab confirmed influenza in the affected regions.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.



## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=f3f230614565499e93be02096e46daf3>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 9
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 7 - 9 (February 15 – March 7, 2015)**

Influenza Type	Week 7	Week 8	Week 9	2014-2015* Season-to-Date
Influenza A	380	274	115	40,641
Influenza B	372	497	336	3,905
Influenza Unknown Or Untyped	32	21	6	1,196
Total	784	792	457	45,742

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 9 (March 1 – March 7, 2015, 2015)**

Age Group	Week 9 Cases	Week 9 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	87	23	8,580	2,262
05-14	92	12	13,147	1,673
15-64	223	6	17,329	436
65+	55	6	6,686	757
Total	457	8	45,742	760

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 9 (March 1 – March 7, 2015)**

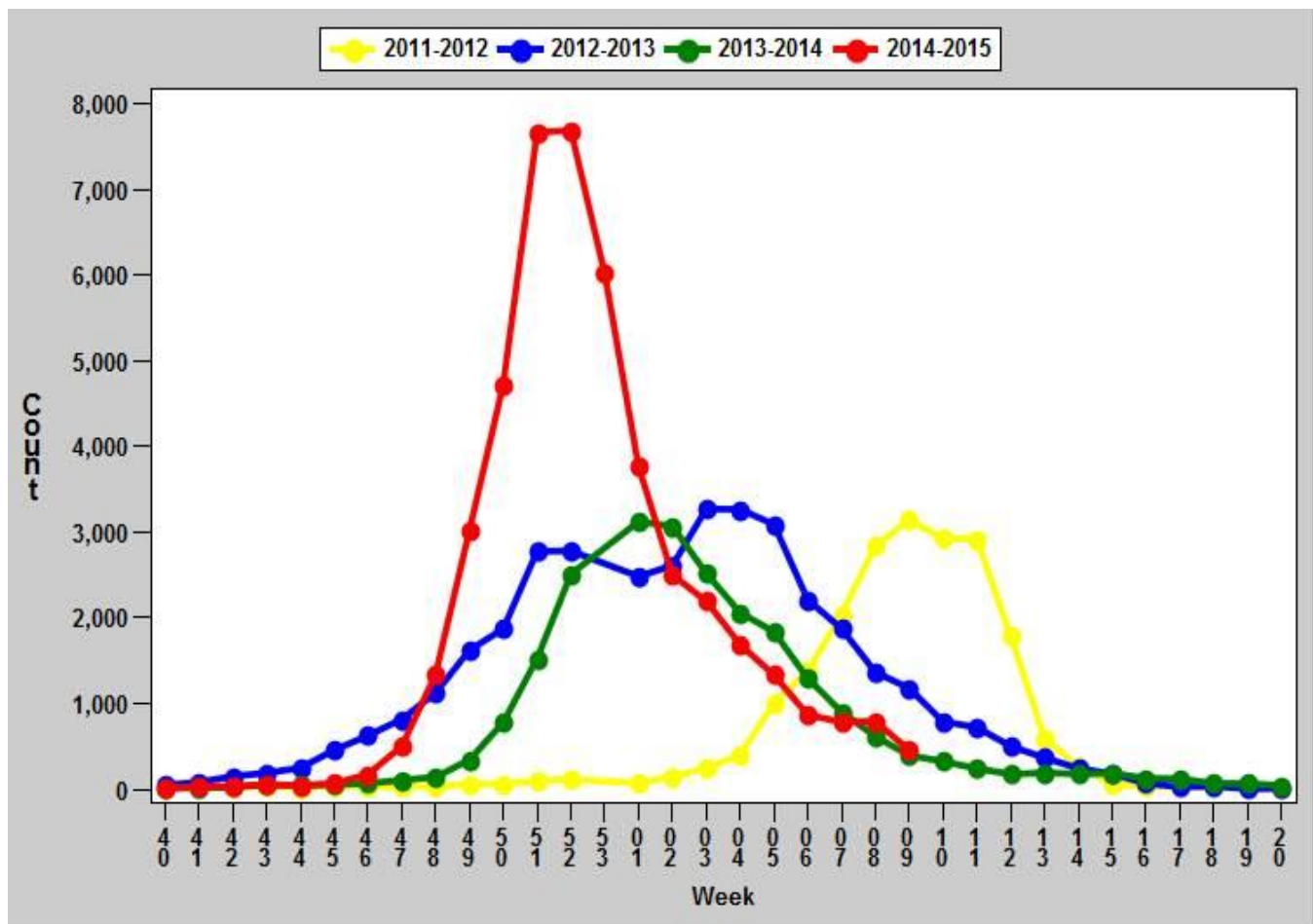
District	Week 9 Cases	Week 9 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	79	12	6,283	937
EA	177	8	12,457	556
NW	71	4	13,186	835
SE	32	7	5,372	1,131
SW	98	9	8,444	799
<b>Total</b>	<b>457</b>	<b>8</b>	<b>45,742</b>	<b>760</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

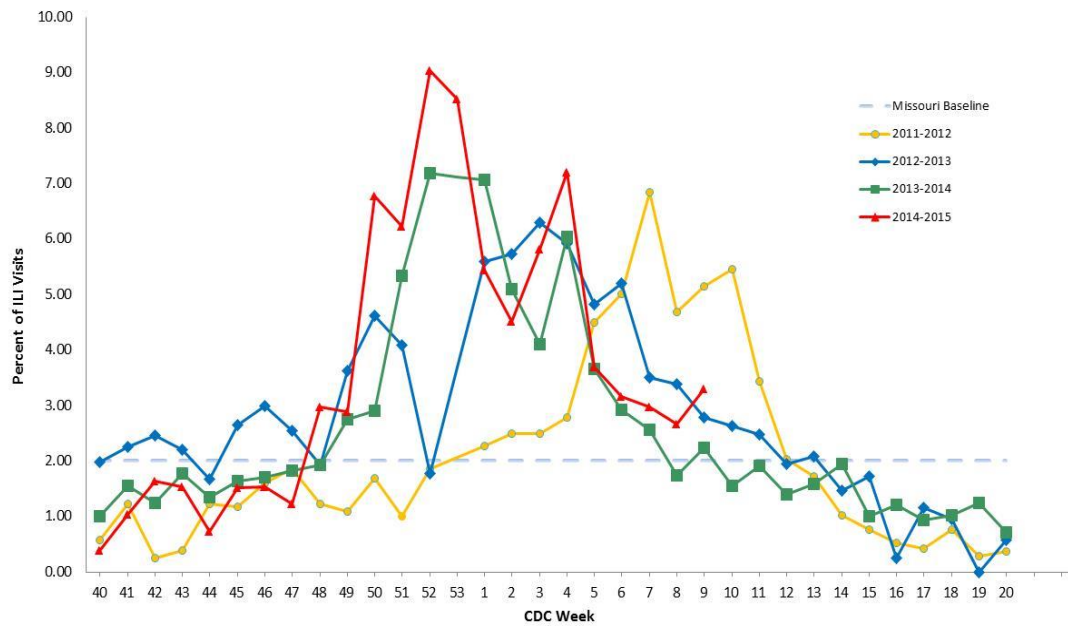
**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***



<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

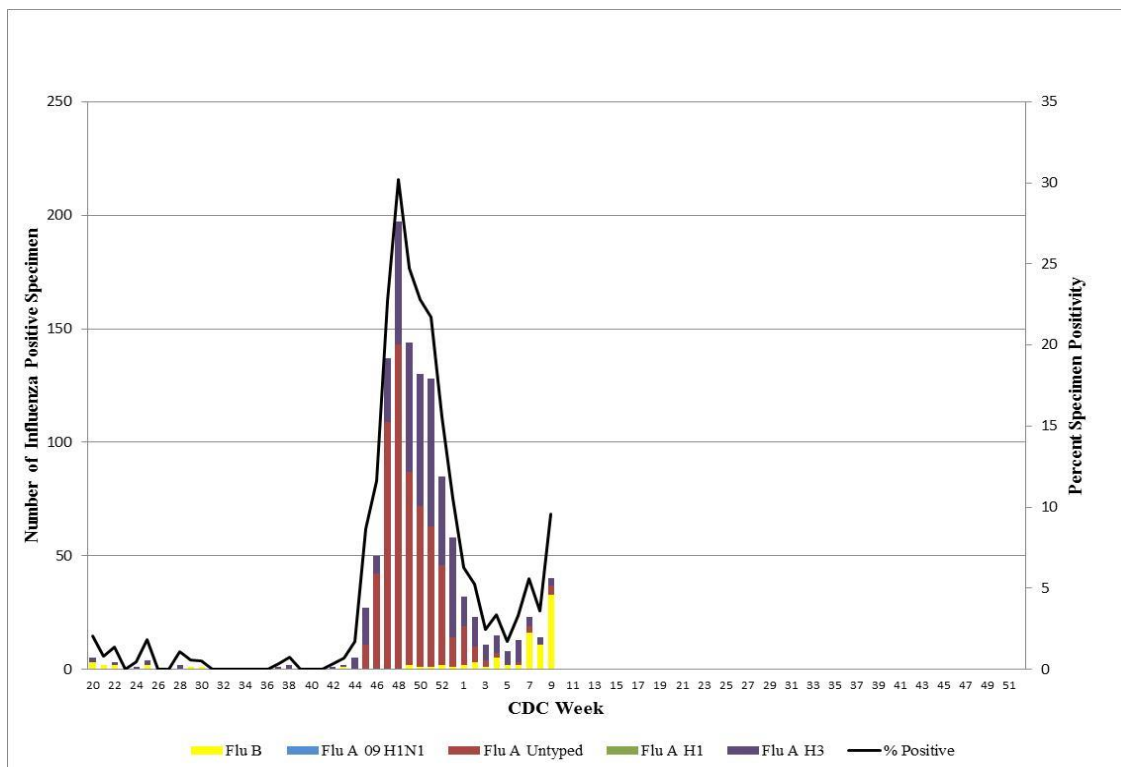
\*2014-2015 Season-to-Date through the week ending March 7, 2015 (Week 9). Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending March 7, 2015 (Week 9)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) and Rapid Influenza Tests**

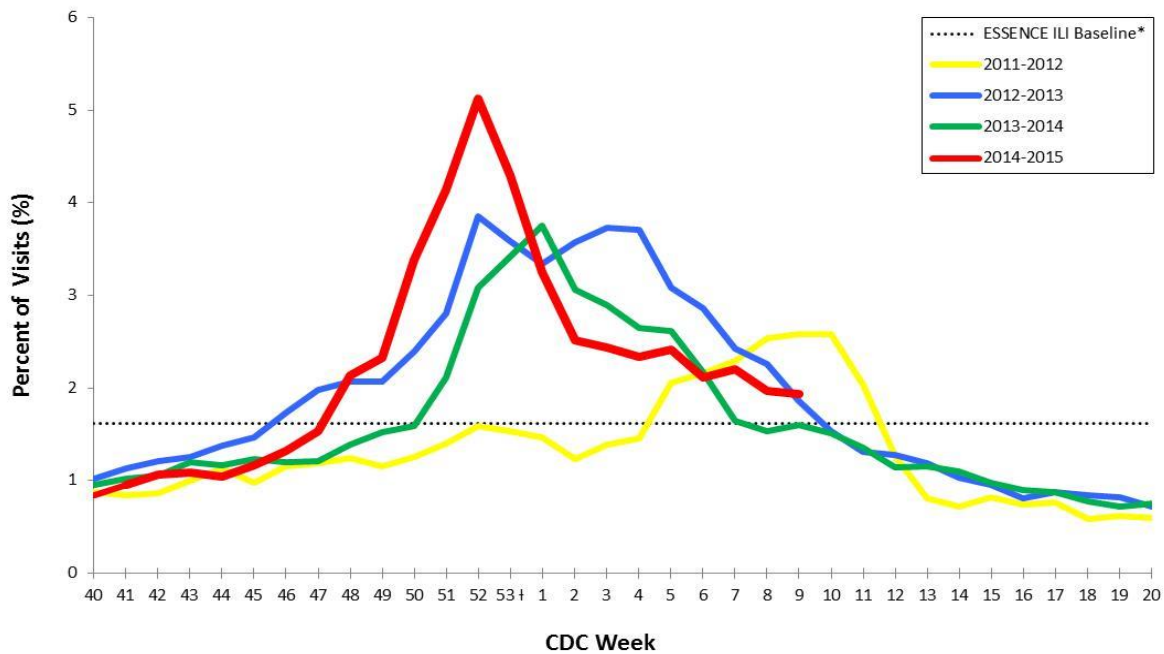


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

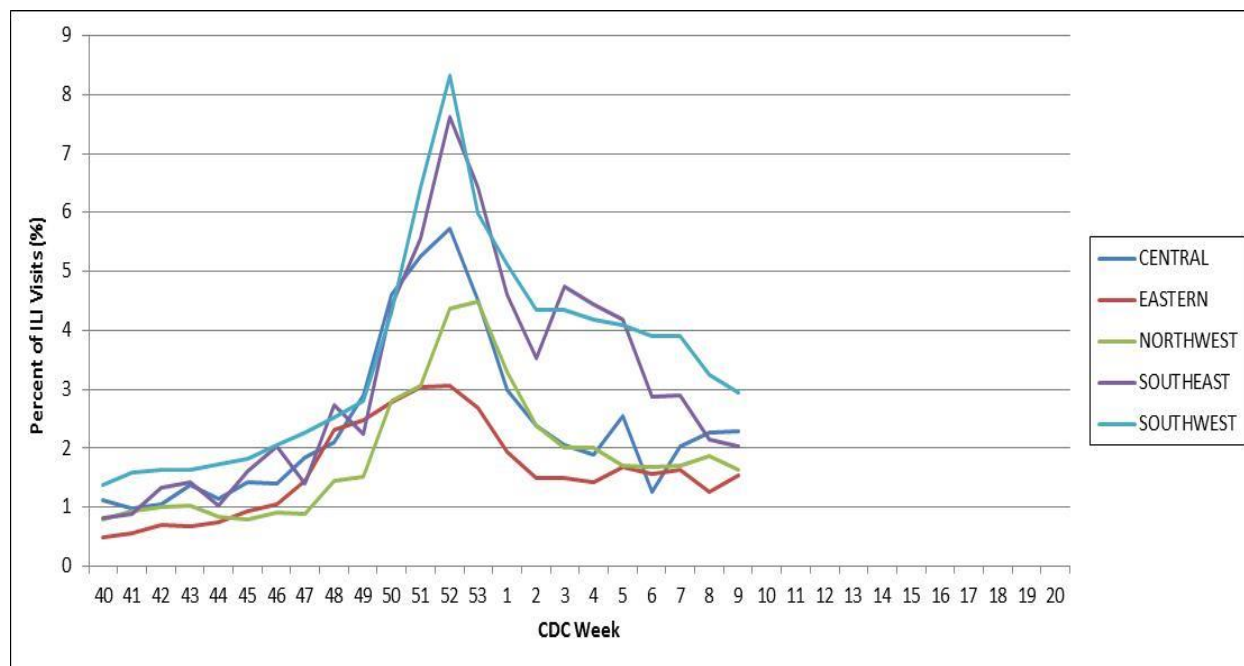
\*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 9 (March 1 – March 7, 2015)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	2.6%	3.8%	1.4%	1.1%	0.6%	1.6%
Central	7.1%	3.4%	2.4%	0.6%	0.5%	2.3%
Eastern	2.5%	3.2%	1.7%	0.9%	0.5%	1.6%
Southeast	8.5%	4.5%	1.1%	1.6%	0.3%	2.0%
Southwest	9.6%	6.2%	2.1%	1.7%	0.5%	2.9%
Statewide	4.6%	4.0%	1.7%	1.1%	0.5%	1.9%

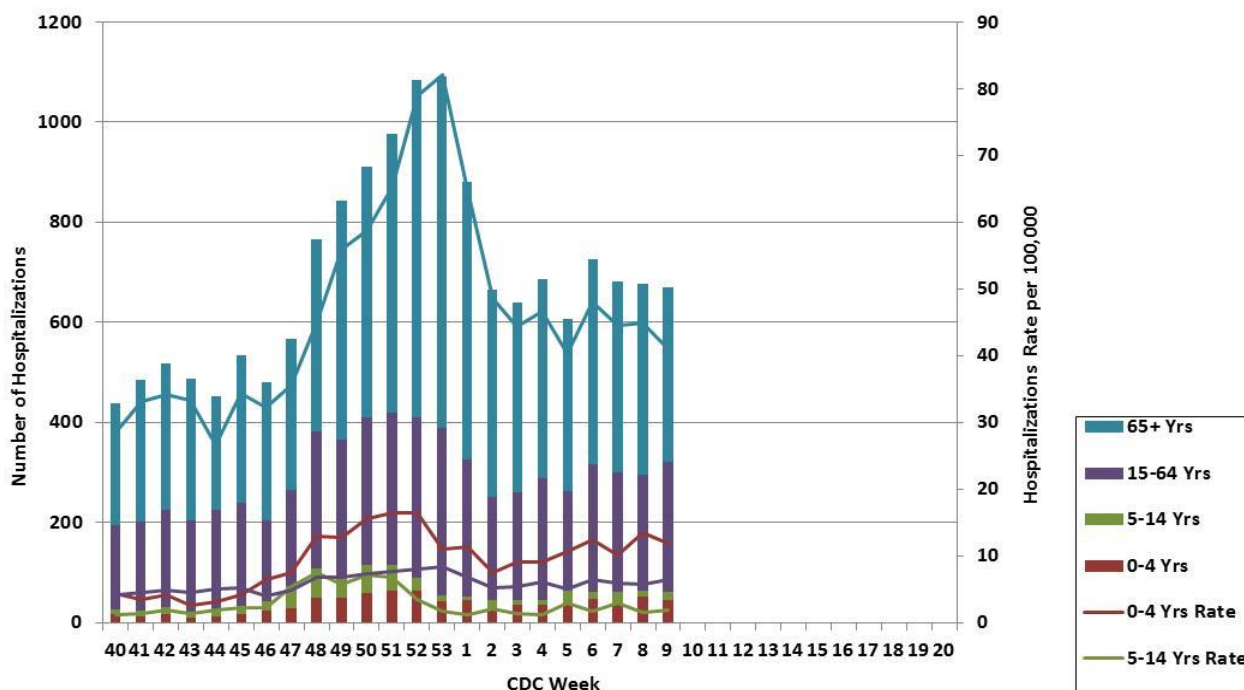
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
 \*2014-2015 Season-to-Date through the week ending March 7, 2015 (Week 9)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).  
 \*2014-2015 Season-to-Date through the week ending March 7, 2015 (Week 9)

## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 10: March 8 – March 14, 2015

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri is Regional.<sup>2</sup>
- A season-to-date total of 46,961 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A remains the predominant type reported this season. Influenza B viruses accounted for 79% of reported cases during Week 10. The laboratory-confirmed influenza case reported by the Missouri State Public Health Laboratory (MSPHL) during Week 10 was influenza B.
- The Centers for Disease Control and Prevention (CDC) has antigenically characterized 13 influenza isolates so far this influenza season from Missouri: five A (H3N2) A/TEXAS/50/2012-like, six A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, one B/MASSACHUSETTS/02/2012-like, and one B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus and accounts for 73.6% of viruses from U.S. laboratories from October 1, 2014 – March 7, 2015. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 2.41% and 2.0% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years (23 cases per 100,000 population). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 95 deaths during Week 9, resulting in a season-to-date total of 2,083 P&I associated deaths in Missouri<sup>5</sup>.
- No outbreaks of influenza or ILI were reported during Week 10 in Missouri. No ILI-associated school closures were reported during Week 10.
- National influenza activity and surveillance information is prepared by the CDC. The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Regional is defined as: Increased ILI in at least 2 regions but less than half of the regions, AND recent (within the past 3 weeks) lab confirmed influenza in the affected regions. OR Institutional outbreaks (ILI or lab confirmed) in at least 2 regions, but fewer than half of the regions, AND recent lab confirmed influenza in the affected regions.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.



## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=bd352ef60ede4976959702e005a52f58>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 10
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 8 - 10 (February 22 – March 14, 2015)**

Influenza Type	Week 8	Week 9	Week 10	2014-2015* Season-to-Date
Influenza A	293	197	104	40,930
Influenza B	587	645	455	4,806
Influenza Unknown Or Untyped	21	18	15	1,225
Total	901	860	574	46,961

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 10 (March 8 – March 14, 2015)**

Age Group	Week 10 Cases	Week 10 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	86	23	8,776	2,314
05-14	158	20	13,452	1,712
15-64	274	7	17,936	451
65+	56	6	6,797	770
Total	574	10	46,961	780

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population



**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 10 (March 8 – March 14, 2015)**

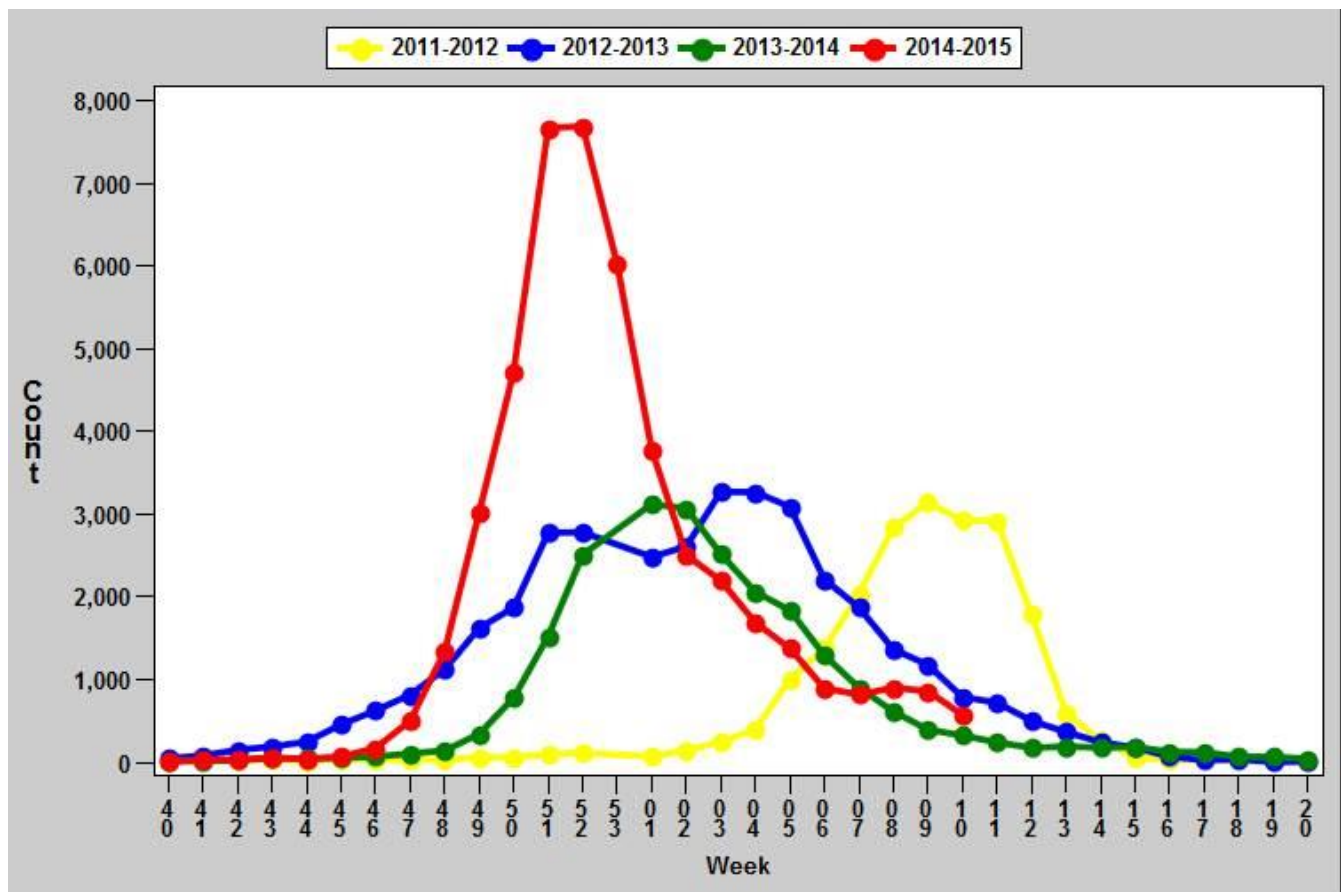
District	Week 10 Cases	Week 10 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	89	13	6,504	970
EA	239	11	12,902	576
NW	109	7	13,498	855
SE	36	8	5,437	1,145
SW	101	10	8,620	816
<b>Total</b>	<b>574</b>	<b>10</b>	<b>46,961</b>	<b>780</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

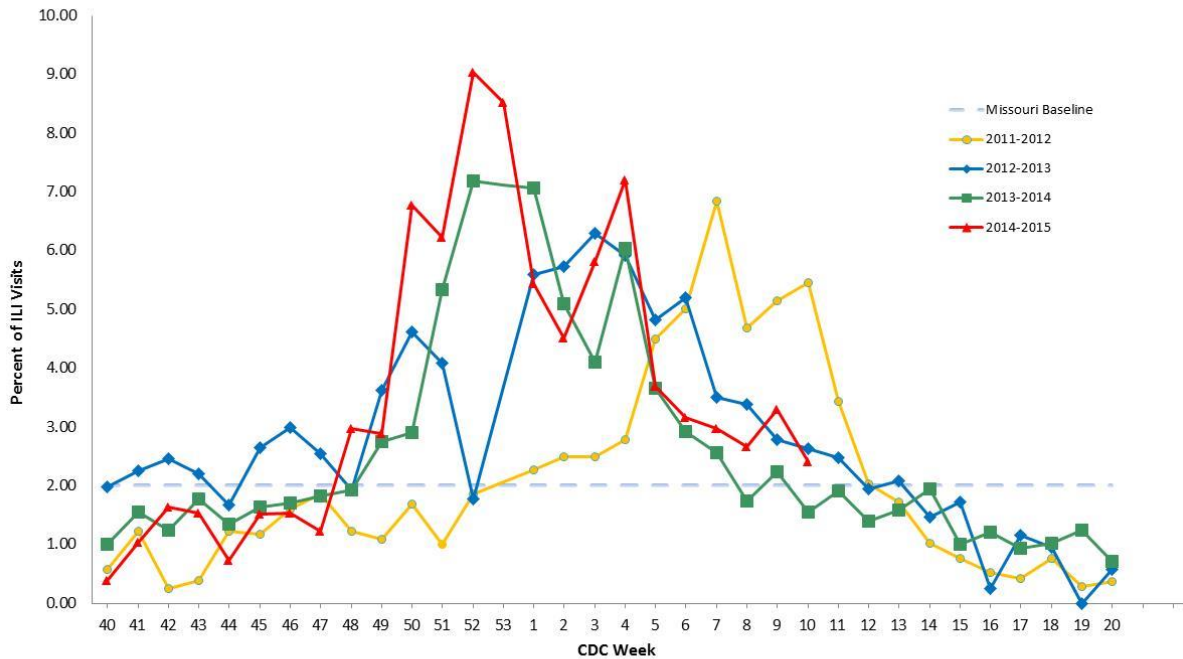
**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***



<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

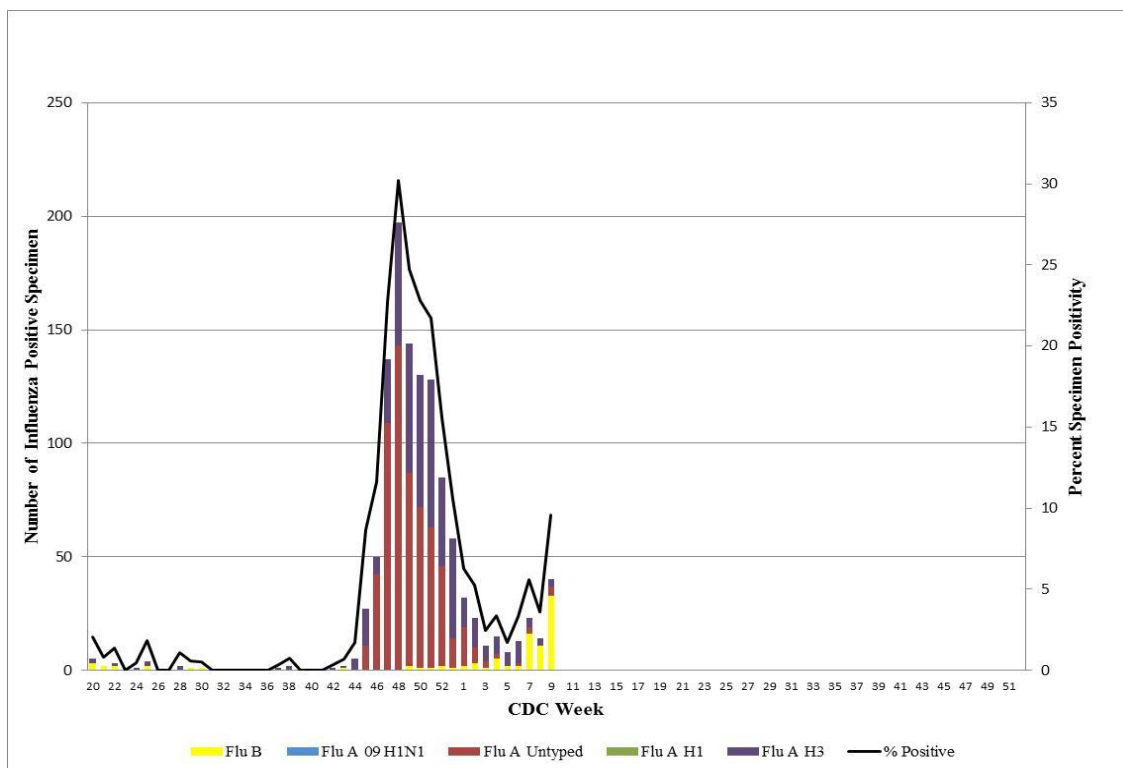
\*2014-2015 Season-to-Date through the week ending March 14, 2015 (Week 10). Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending March 14, 2015 (Week 10)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) and Rapid Influenza Tests**

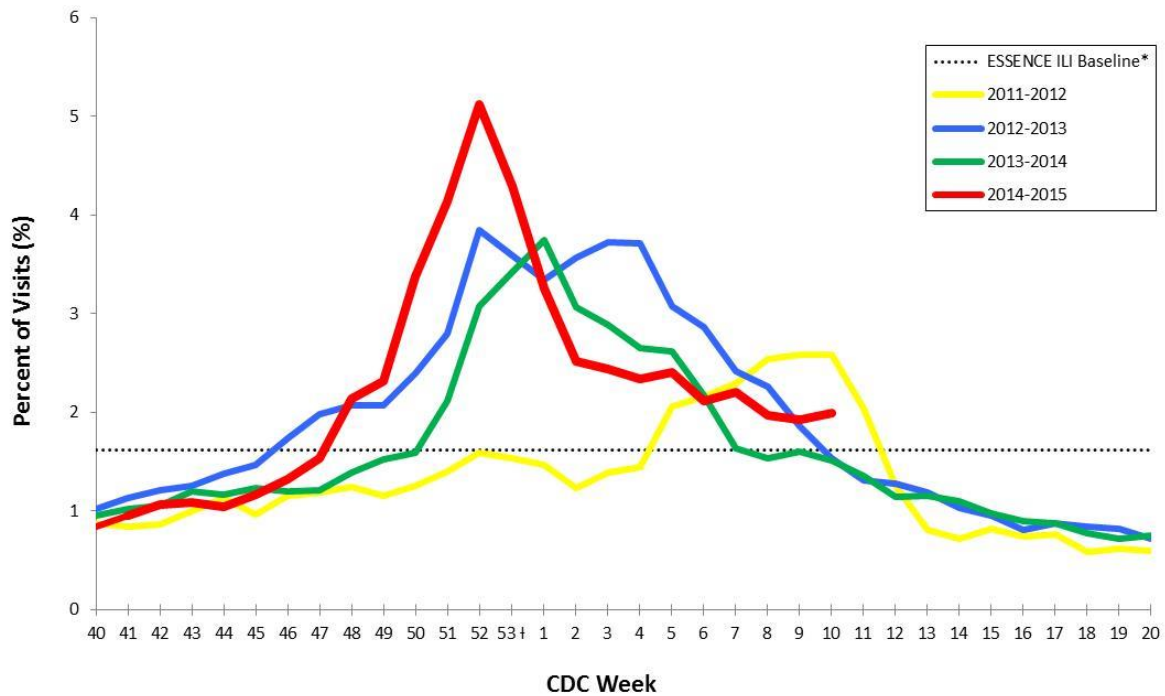


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

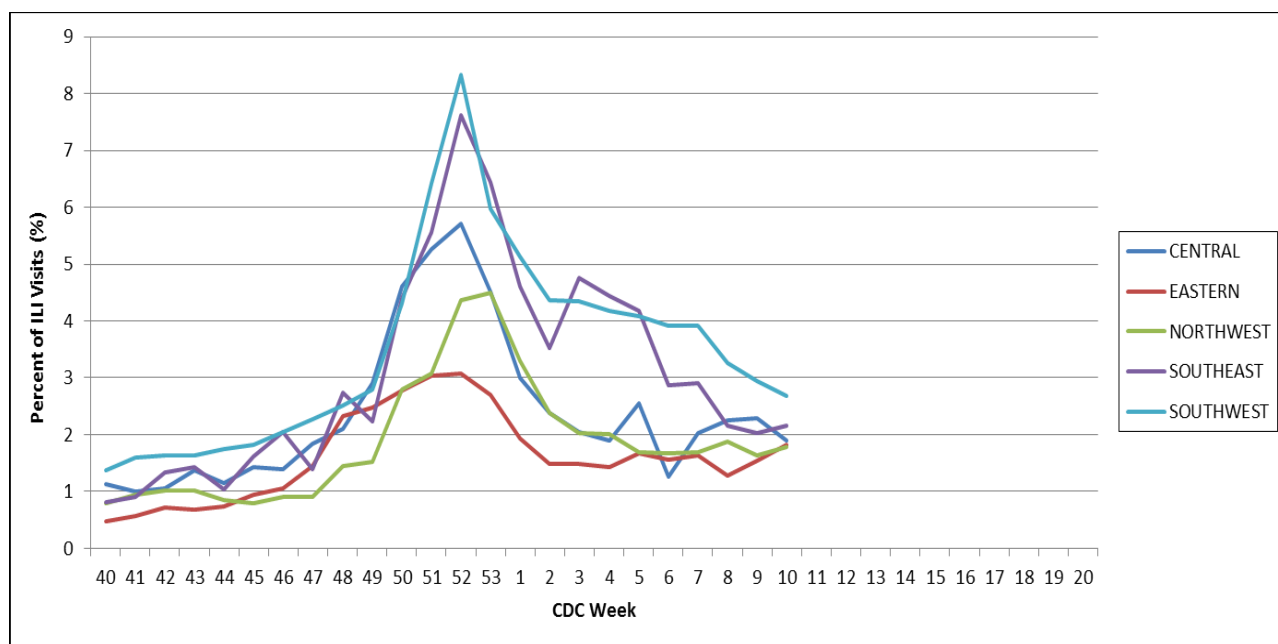
\*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 10 (March 8 – March 14, 2015)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	3.0%	3.8%	1.4%	1.4%	0.8%	1.8%
Central	6.0%	3.0%	1.5%	1.0%	0.9%	1.9%
Eastern	2.8%	2.6%	2.0%	1.5%	0.8%	1.8%
Southeast	8.4%	3.1%	1.7%	1.1%	1.3%	2.2%
Southwest	7.6%	6.4%	1.8%	1.3%	1.2%	2.7%
Statewide	4.2%	3.7%	1.7%	1.4%	0.9%	2.0%

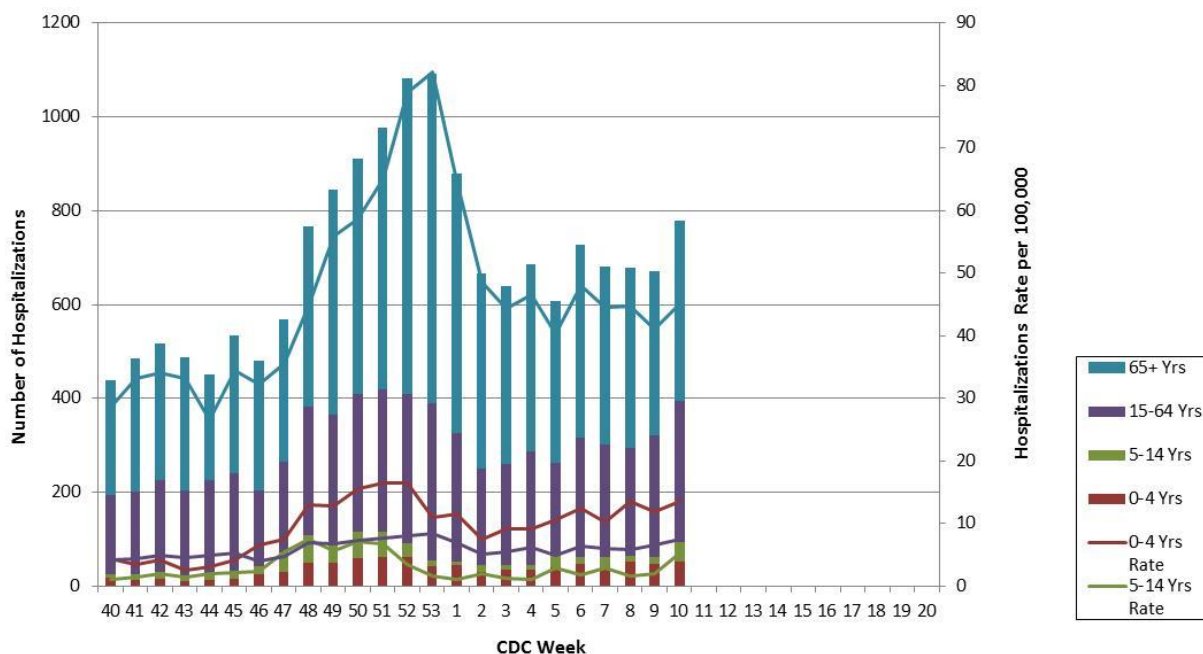
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
 \*2014-2015 Season-to-Date through the week ending March 14, 2015 (Week 10)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).  
 \*2014-2015 Season-to-Date through the week ending March 14, 2015 (Week 10)

## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

**Week 11: March 15 – March 21, 2015**

*All data are preliminary and may change as more reports are received.*

## Summary:

- The estimated influenza activity in Missouri is Regional.<sup>2</sup>
- A season-to-date total of 48,380 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A remains the predominant type reported this season. Influenza B viruses accounted for 88% of reported cases during Week 11. All seven laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 11 were influenza B.
- The Centers for Disease Control and Prevention (CDC) has antigenically characterized 14 influenza isolates so far this influenza season from Missouri: five A (H3N2) A/TEXAS/50/2012-like, six A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, one B/MASSACHUSETTS/02/2012-like, and two B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus and accounts for 73.6% of viruses from U.S. laboratories from October 1, 2014 – March 14, 2015.  
<http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 2.71% and 1.8% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years (34 cases per 100,000 population). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records increased to 105 deaths during Week 10, resulting in a season-to-date total of 2,188 P&I associated deaths in Missouri<sup>5</sup>.
- Two outbreaks of influenza or ILI were reported during Week 11 in Missouri. No ILI-associated school closures were reported during Week 11.
- National influenza activity and surveillance information is prepared by the CDC. The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Regional is defined as: Increased ILI in at least 2 regions but less than half of the regions, AND recent (within the past 3 weeks) lab confirmed influenza in the affected regions. OR Institutional outbreaks (ILI or lab confirmed) in at least 2 regions, but fewer than half of the regions, AND recent lab confirmed influenza in the affected regions.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=aa03143bb7d441f08c2ac9c187c4895d>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 11
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 9 - 11 (March 1 – March 21, 2015)**

Influenza Type	Week 9	Week 10	Week 11	2014-2015* Season-to-Date
Influenza A	213	190	84	41,167
Influenza B	691	807	716	5,948
Influenza Unknown Or Untyped	19	35	18	1,265
Total	923	1,032	818	48,380

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 11 (March 15 – March 21, 2015)**

Age Group	Week 11 Cases	Week 11 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	128	34	8,957	2,362
05-14	219	28	13,863	1,764
15-64	396	10	18,621	469
65+	75	8	6,939	786
Total	818	14	48,380	803

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population



**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 11 (March 15 – March 21, 2015)**

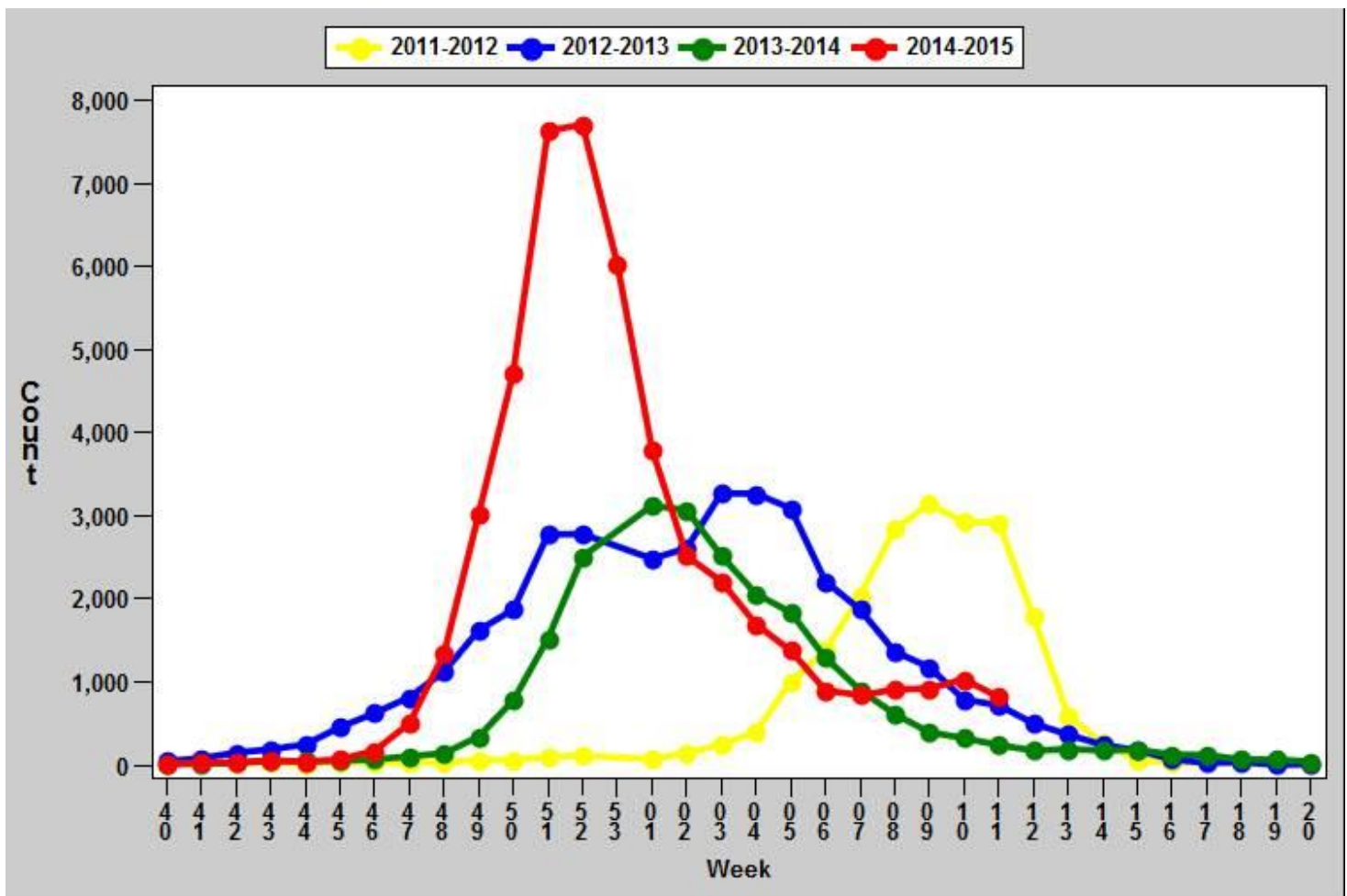
District	Week 11 Cases	Week 11 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	48	7	6,737	1,005
EA	438	20	13,429	599
NW	194	12	13,920	882
SE	51	11	5,496	1,157
SW	87	8	8,798	832
<b>Total</b>	<b>818</b>	<b>14</b>	<b>48,380</b>	<b>803</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***

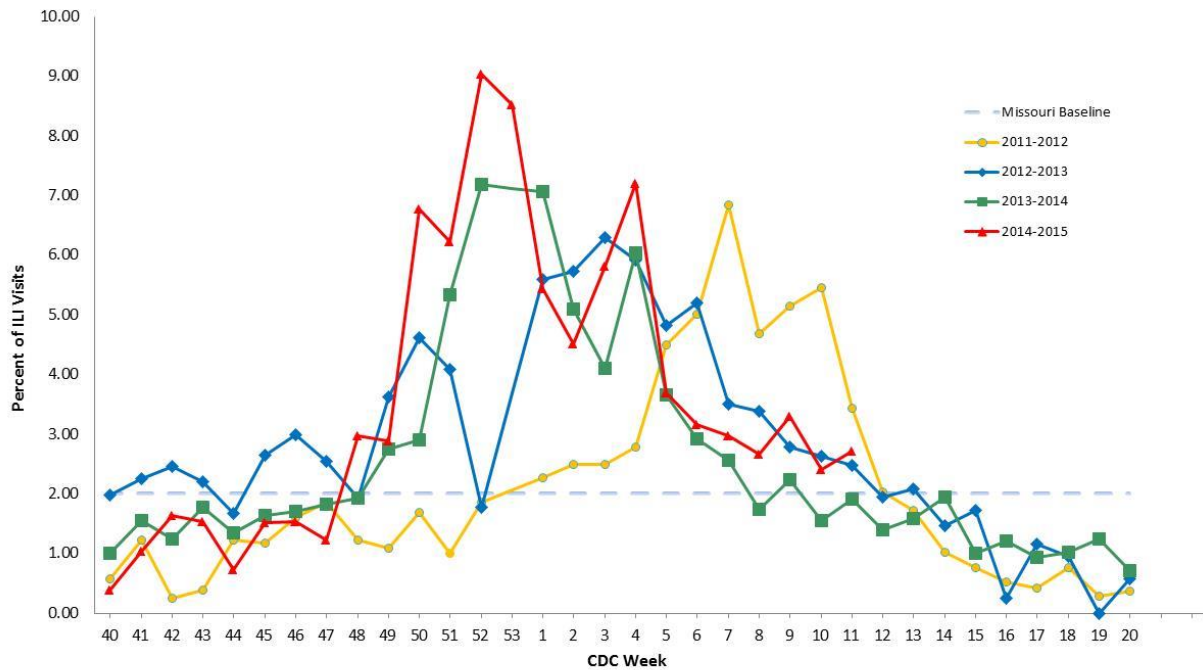


<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*2014-2015 Season-to-Date through the week ending March 21, 2015 (Week 11). Data Source: Missouri Health Information Surveillance System (WebSurv).

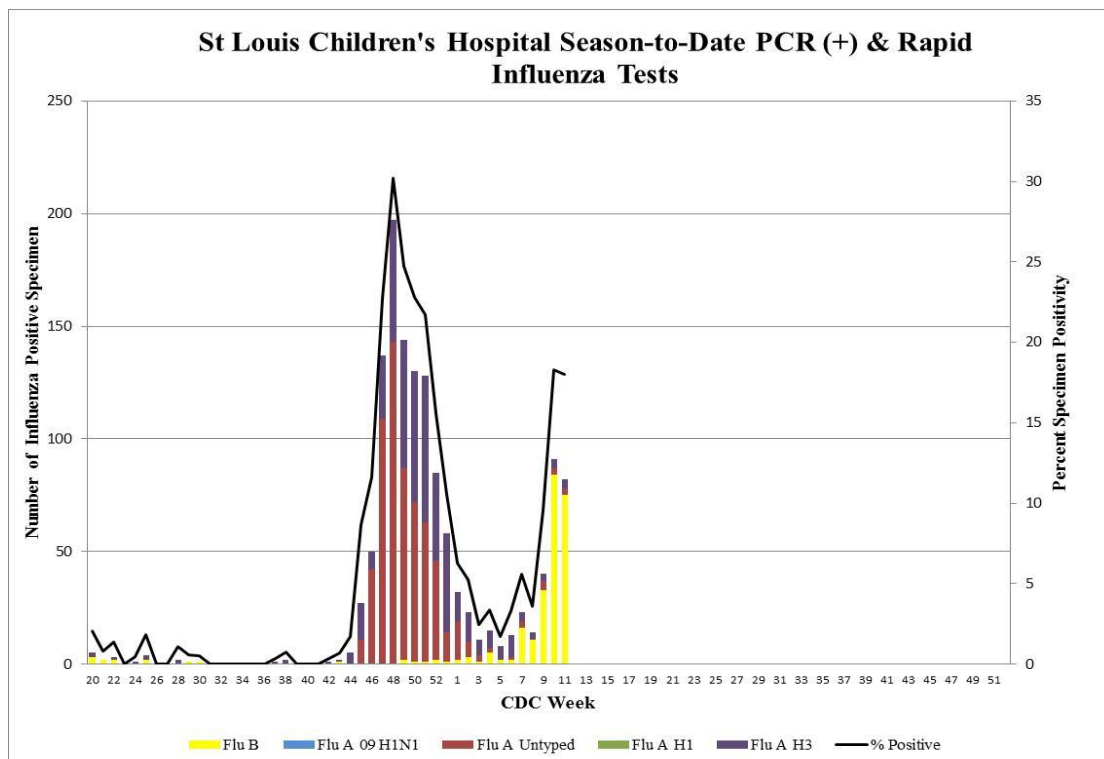


**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending March 21, 2015 (Week 11)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) and Rapid Influenza Tests**

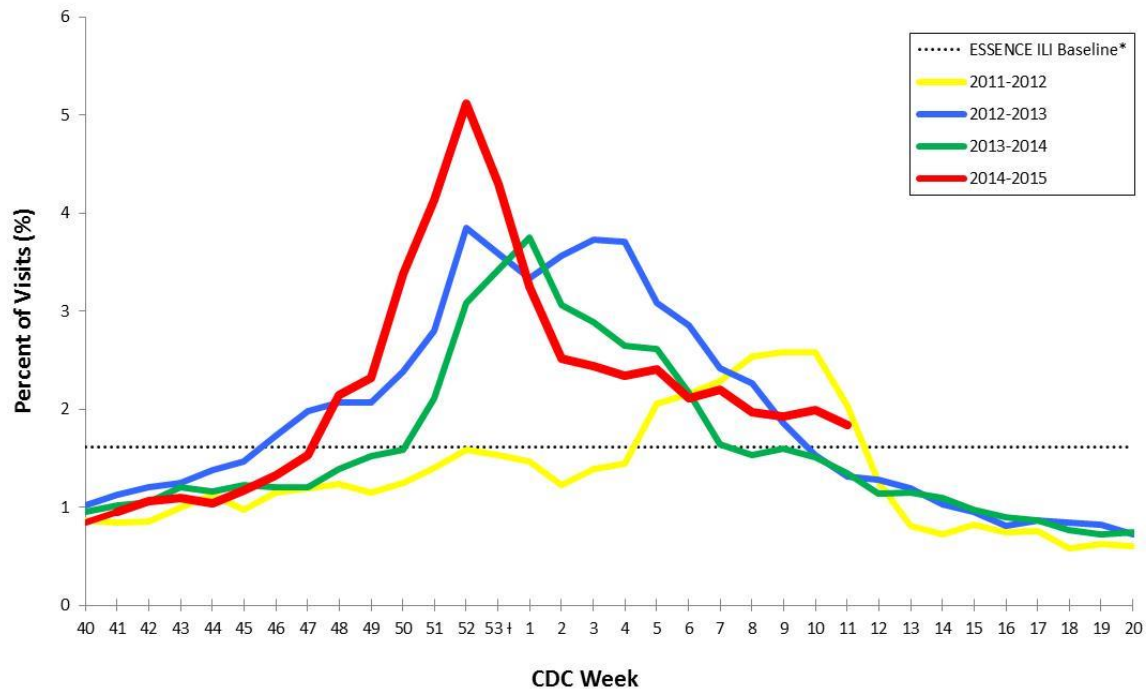


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

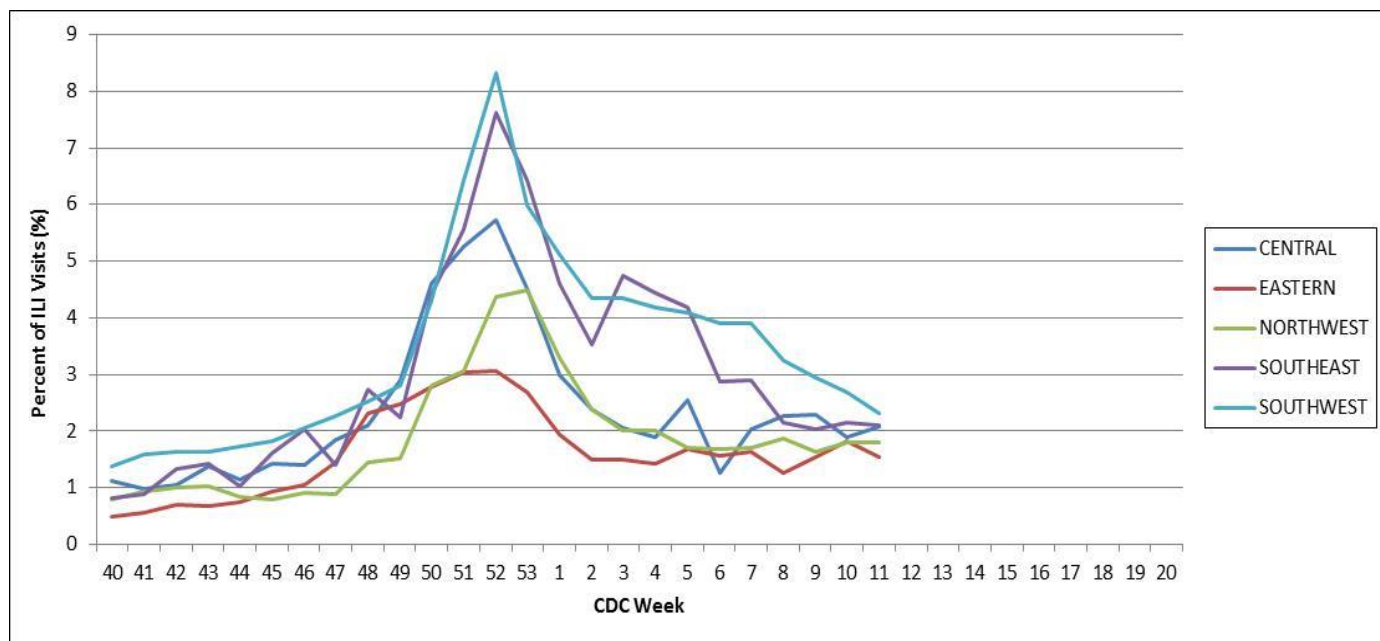
\*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 11 (March 15 – March 21, 2015)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	2.2%	3.6%	1.8%	1.3%	1.0%	1.8%
Central	3.7%	3.2%	1.9%	1.8%	1.3%	2.1%
Eastern	2.2%	2.6%	1.7%	1.2%	0.8%	1.5%
Southeast	7.6%	4.6%	1.3%	0.9%	1.1%	2.1%
Southwest	6.8%	5.1%	1.4%	1.5%	1.3%	2.3%
Statewide	3.4%	3.5%	1.6%	1.3%	1.0%	1.8%

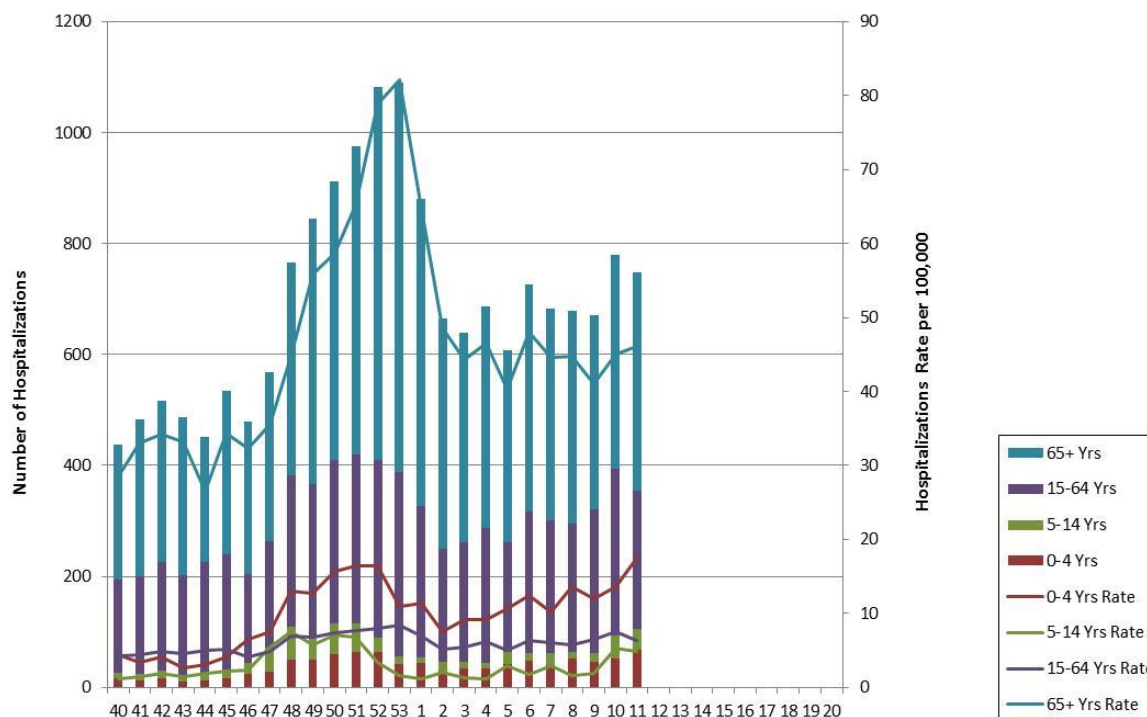
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
 \*2014-2015 Season-to-Date through the week ending March 21, 2015 (Week 11)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).  
 \*2014-2015 Season-to-Date through the week ending March 21, 2015 (Week 11)

## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

**Week 12: March 22 – March 28, 2015**

*All data are preliminary and may change as more reports are received.*

## Summary:

- The estimated influenza activity in Missouri is Regional.<sup>2</sup>
- A season-to-date total of 49,805 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A remains the predominant type reported this season. Influenza B viruses accounted for 84% of reported cases during Week 12. The laboratory-confirmed influenza case reported by the Missouri State Public Health Laboratory (MSPHL) during Week 12 was influenza B.
- The Centers for Disease Control and Prevention (CDC) has antigenically characterized 15 influenza isolates so far this influenza season from Missouri: five A (H3N2) A/TEXAS/50/2012-like, seven A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, one B/MASSACHUSETTS/02/2012-like, and two B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus and accounts for 73.6% of viruses from U.S. laboratories from October 1, 2014 – March 21, 2015.  
<http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 2.77% and 1.6% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years (38 cases per 100,000 population). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 93 deaths during Week 11, resulting in a season-to-date total of 2,281 P&I associated deaths in Missouri<sup>5</sup>.
- No outbreaks of influenza or ILI were reported during Week 12 in Missouri. One ILI-associated school closure was reported during Week 12.
- National influenza activity and surveillance information is prepared by the CDC. The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Regional is defined as: Increased ILI in at least 2 regions but less than half of the regions, AND recent (within the past 3 weeks) lab confirmed influenza in the affected regions. OR Institutional outbreaks (ILI or lab confirmed) in at least 2 regions, but fewer than half of the regions, AND recent lab confirmed influenza in the affected regions.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=ab23c64befb8496a81a1bed11c7fa7a8>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 12
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 10 - 12 (March 8 – March 28, 2015)**

Influenza Type	Week 10	Week 11	Week 12	2014-2015* Season-to-Date
Influenza A	220	133	109	41,441
Influenza B	961	989	636	7,056
Influenza Unknown Or Untyped	40	42	14	1,308
Total	1,221	1,164	759	49,805

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 12 (March 22 – March 28, 2015)**

Age Group	Week 12 Cases	Week 12 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	144	38	9,192	2,424
05-14	195	25	14,209	1,808
15-64	334	8	19,292	485
65+	86	10	7,112	805
Total	759	13	49,805	827

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 12 (March 22 – March 28, 2015)**

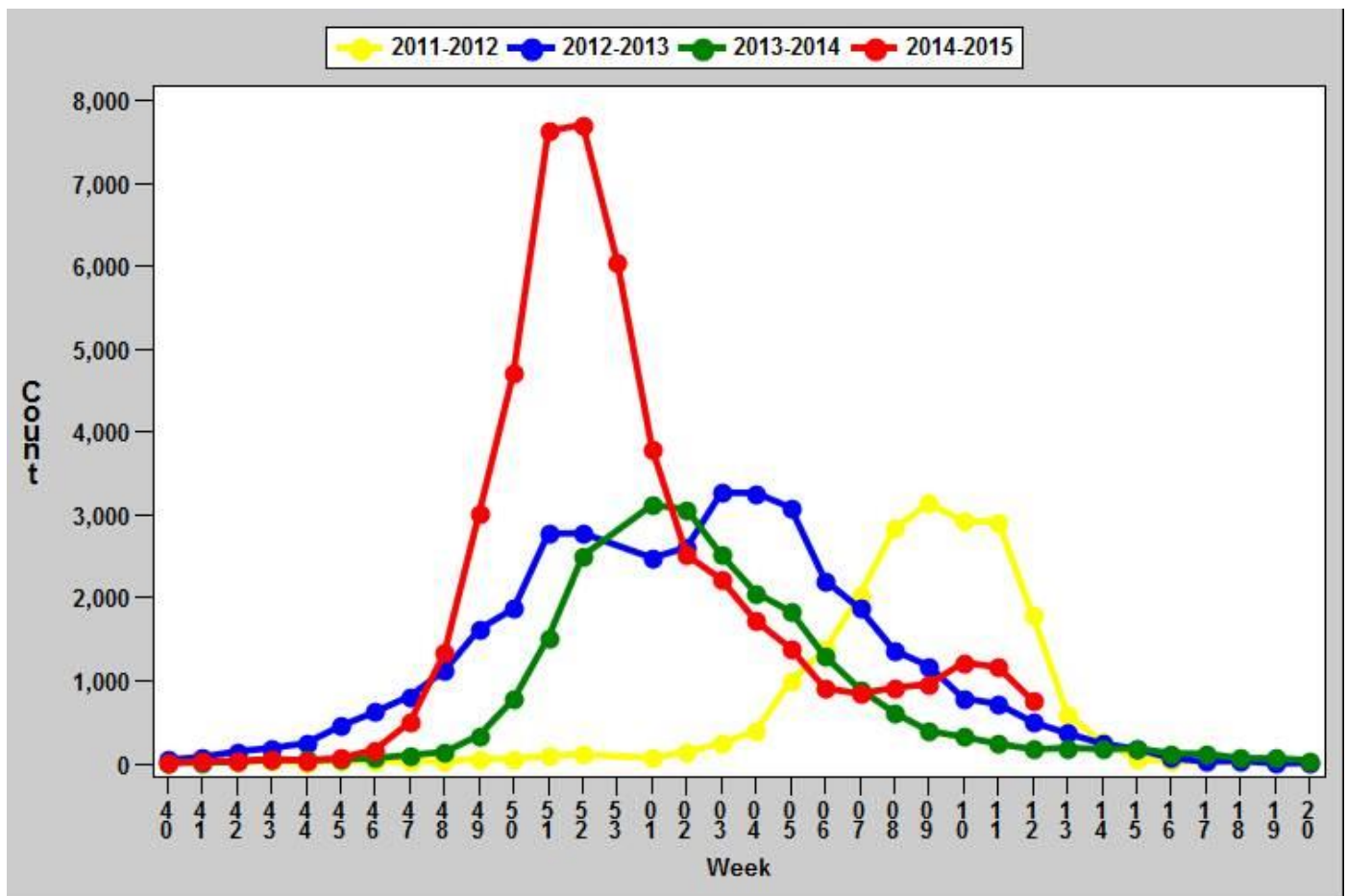
District	Week 12 Cases	Week 12 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	49	7	6,933	1,034
EA	382	17	13,819	617
NW	236	15	14,408	913
SE	30	6	5,529	1,164
SW	62	6	9,116	863
<b>Total</b>	<b>759</b>	<b>13</b>	<b>49,805</b>	<b>827</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***

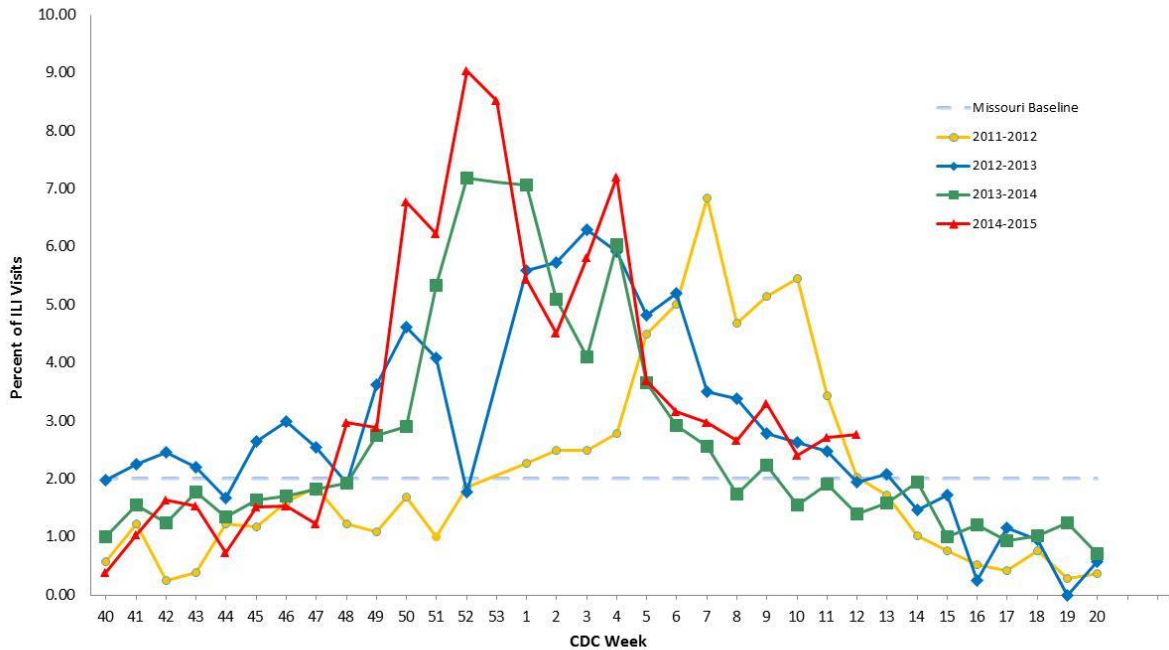


<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*2014-2015 Season-to-Date through the week ending March 28, 2015 (Week 12). Data Source: Missouri Health Information Surveillance System (WebSurv).

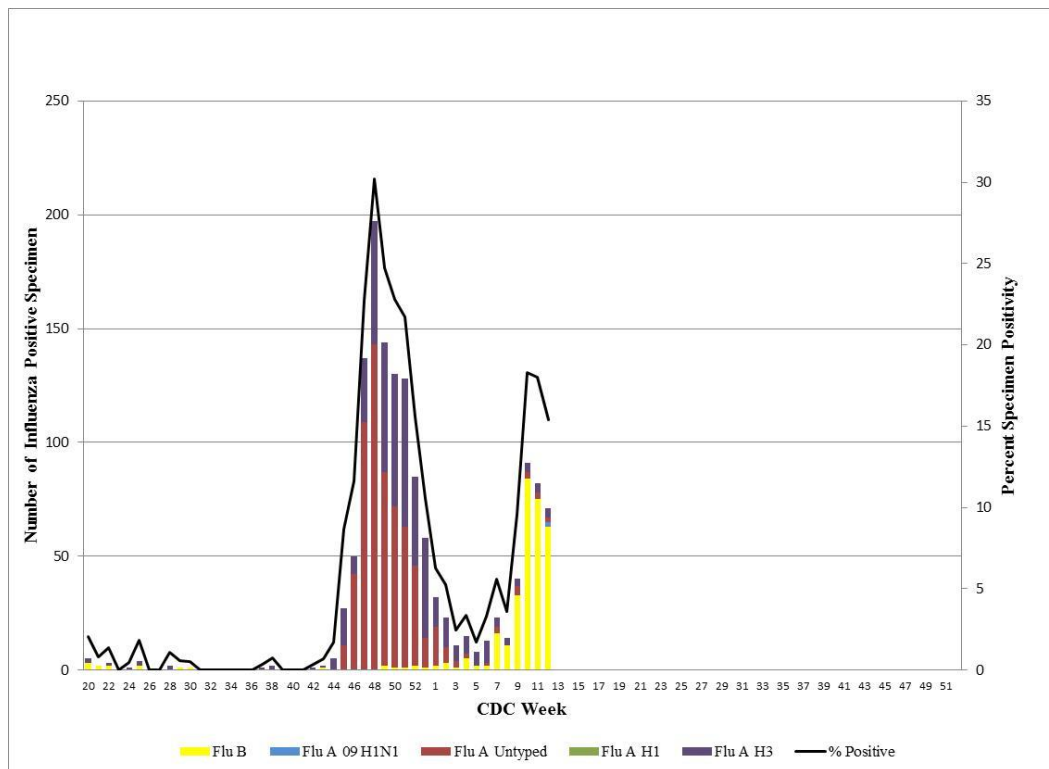


**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending March 28, 2015 (Week 12)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) and Rapid Influenza Tests**



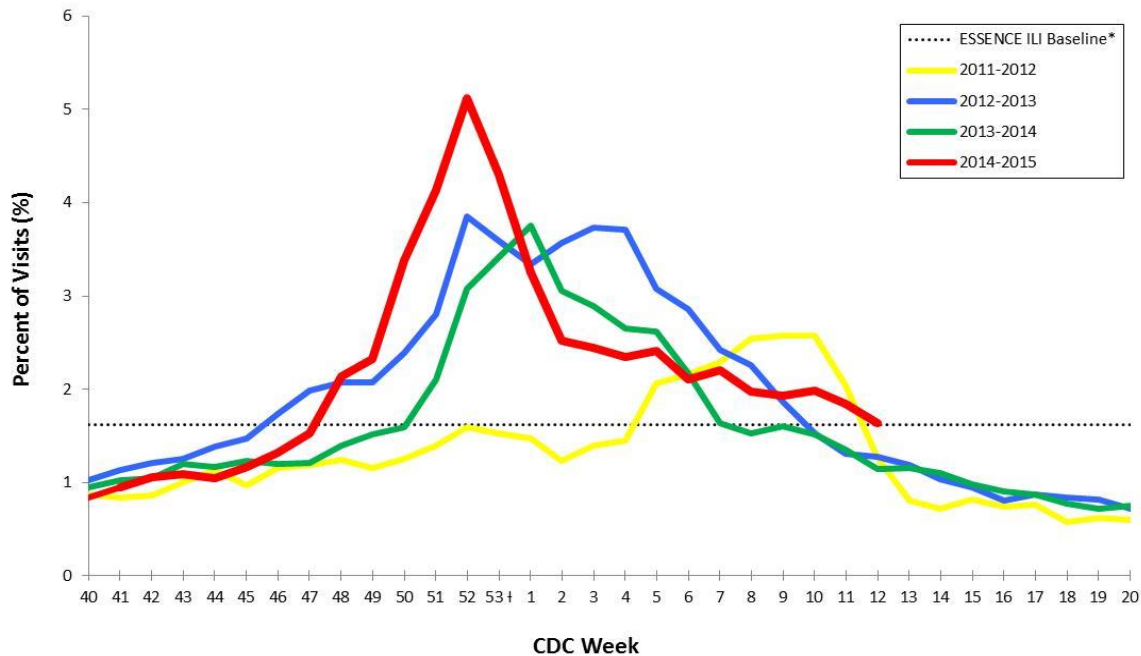
\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)



**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

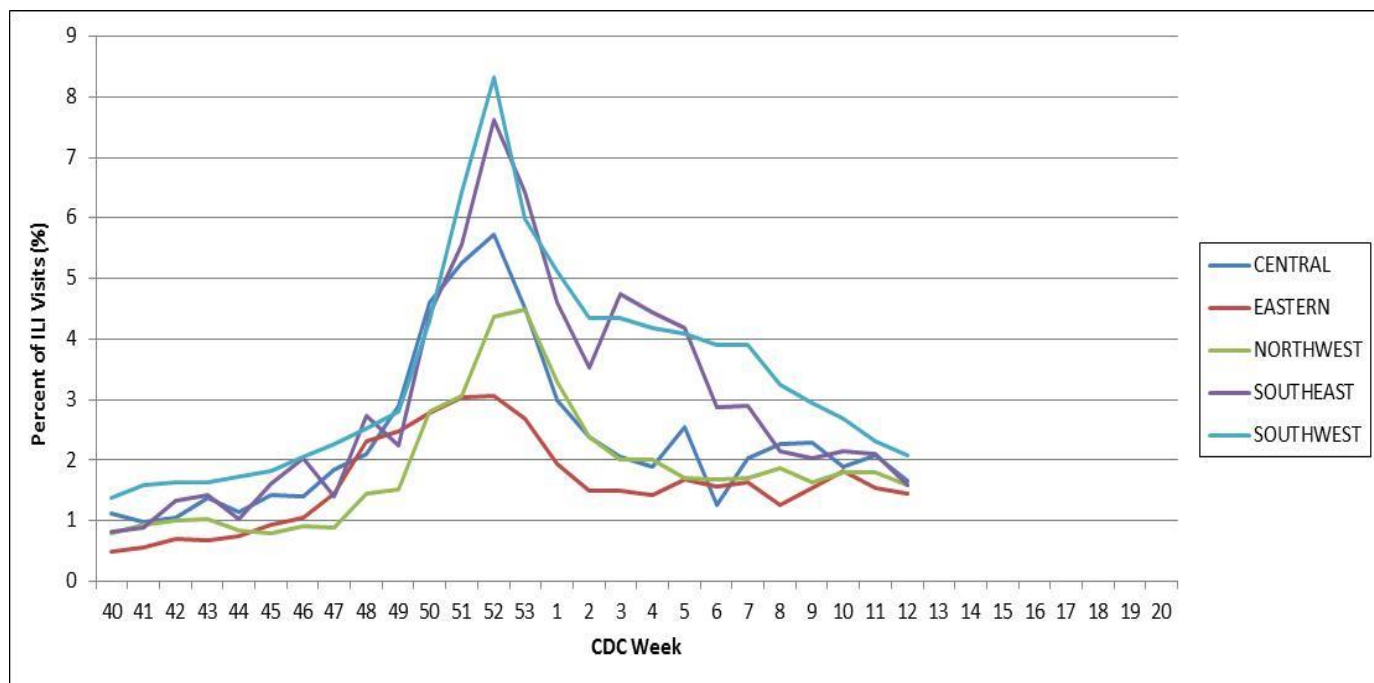
\*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 12 (March 22 – March 28, 2015)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	2.6%	2.5%	1.6%	1.1%	0.8%	1.6%
Central	5.1%	2.2%	1.6%	1.0%	0.6%	1.7%
Eastern	2.9%	2.7%	1.4%	1.0%	0.7%	1.4%
Southeast	6.2%	3.5%	1.1%	1.0%	0.5%	1.6%
Southwest	8.0%	4.2%	1.5%	0.7%	1.0%	2.1%
Statewide	4.1%	3.0%	1.5%	0.9%	0.7%	1.6%

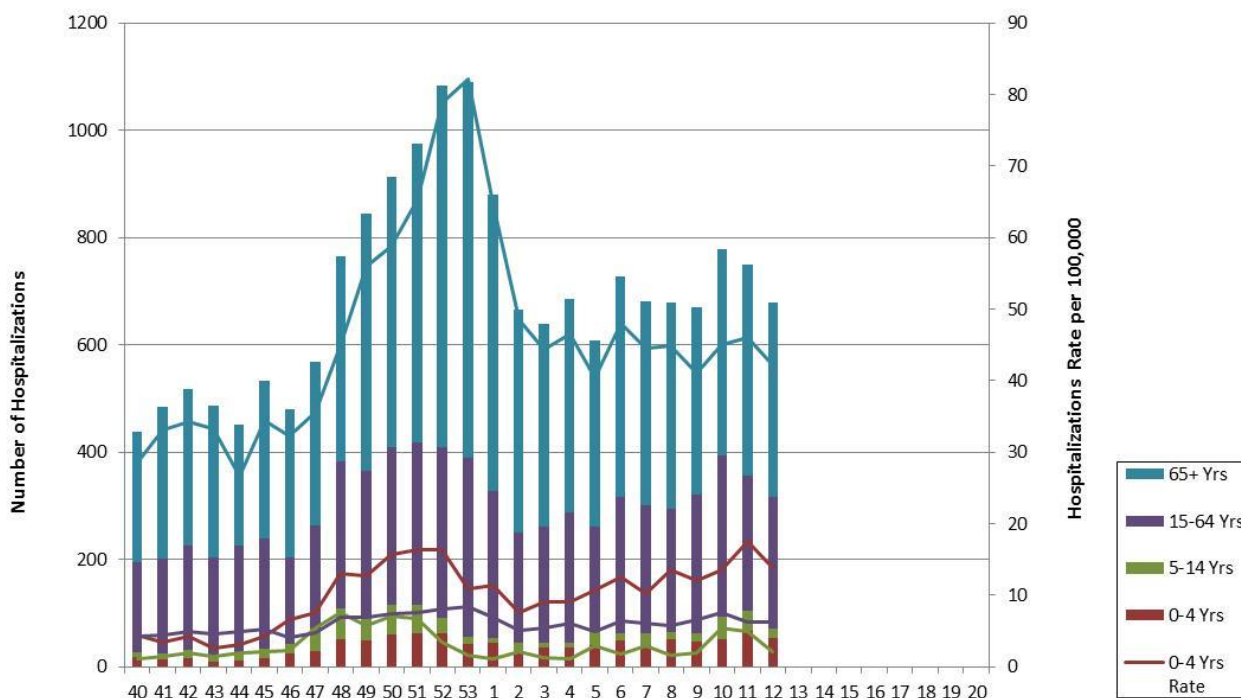
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
 \*2014-2015 Season-to-Date through the week ending March 28, 2015 (Week 12)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).  
 \*2014-2015 Season-to-Date through the week ending March 28, 2015 (Week 12)

## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 13: March 29 – April 4, 2015

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri is Local.<sup>2</sup>
- A season-to-date total of 51,263 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A remains the predominant type reported this season. Influenza B viruses accounted for 87% of reported cases during Week 13. There were no laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 13.
- The Centers for Disease Control and Prevention (CDC) has antigenically characterized 15 influenza isolates so far this influenza season from Missouri: five A (H3N2) A/TEXAS/50/2012-like, seven A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, one B/MASSACHUSETTS/02/2012-like, and two B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from the A/Texas/50/2012 vaccine virus and accounts for 76.8% of viruses from U.S. laboratories from October 1, 2014 – March 28, 2015.  
<http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for the Missouri Outpatient ILI Surveillance Network (ILINet) and is below baseline for the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 2.45% and 1.4% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years (36 cases per 100,000 population). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records increased to 103 deaths during Week 12, resulting in a season-to-date total of 2,384 P&I associated deaths in Missouri<sup>5</sup>.
- No outbreaks of influenza or ILI were reported during Week 13 in Missouri. No ILI-associated school closures were reported during Week 13.
- National influenza activity and surveillance information is prepared by the CDC. The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Local is defined as: Increased ILI in 1 region; ILI activity in other regions is not increased and recent (within the past 3 weeks) lab evidence of influenza in region with increased ILI. OR Two or more institutional outbreaks (ILI or lab confirmed) in 1 region; ILI activity in other regions is not increased and recent (within the past 3 weeks) lab evidence of influenza in region with the outbreak and virus activity is no greater than sporadic in other regions.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=da121920b06d42d59da10dc6b2b35400>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 13
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 11 - 13 (March 15 – April 4, 2015)**

Influenza Type	Week 11	Week 12	Week 13	2014-2015* Season-to-Date
Influenza A	155	166	64	41,642
Influenza B	1,136	1,027	524	8,279
Influenza Unknown Or Untyped	49	28	13	1,342
Total	1,340	1,221	601	51,263

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 13 (March 29 – April 4, 2015)**

Age Group	Week 13 Cases	Week 13 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	135	36	9,437	2,488
05-14	137	17	14,559	1,853
15-64	262	7	19,995	503
65+	67	8	7,272	823
Total	601	10	51,263	851

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 13 (March 29 – April 4, 2015)**

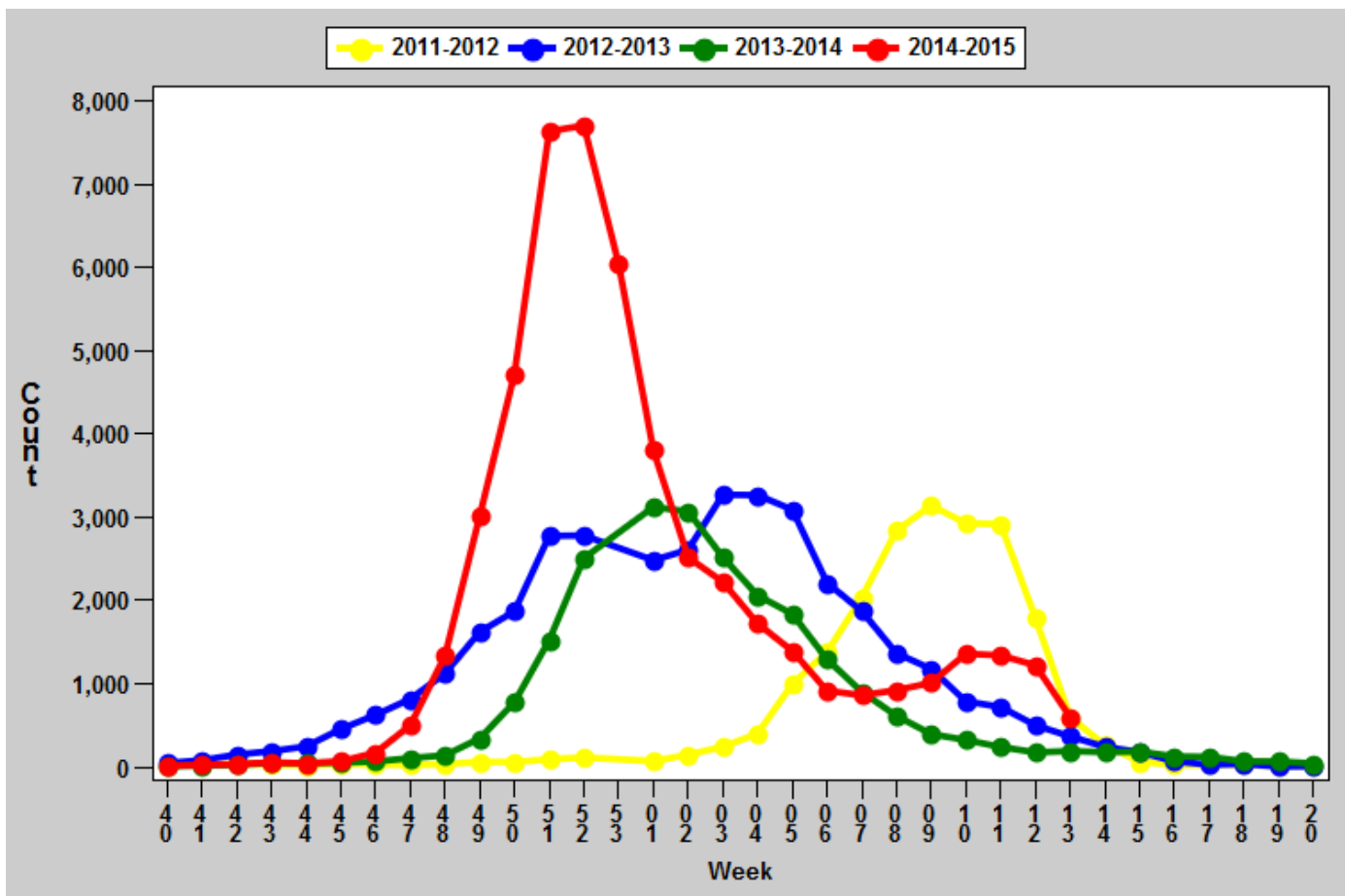
District	Week 13 Cases	Week 13 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	57	9	7,082	1,057
EA	280	12	14,360	641
NW	216	14	14,814	938
SE	30	6	5,589	1,177
SW	18	2	9,418	891
<b>Total</b>	<b>601</b>	<b>10</b>	<b>51,263</b>	<b>851</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

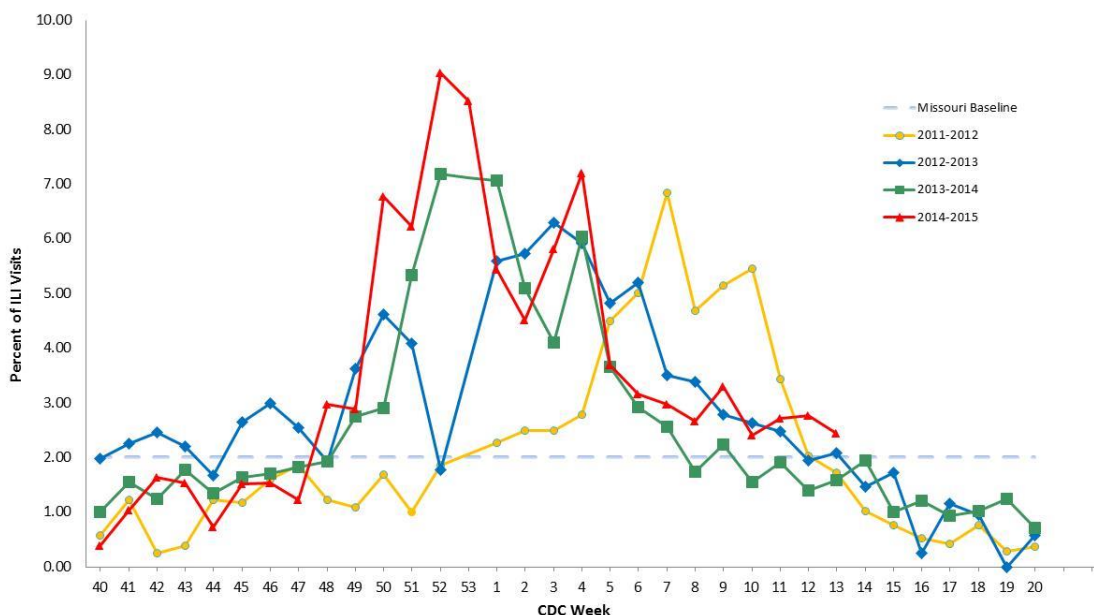
**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***



<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

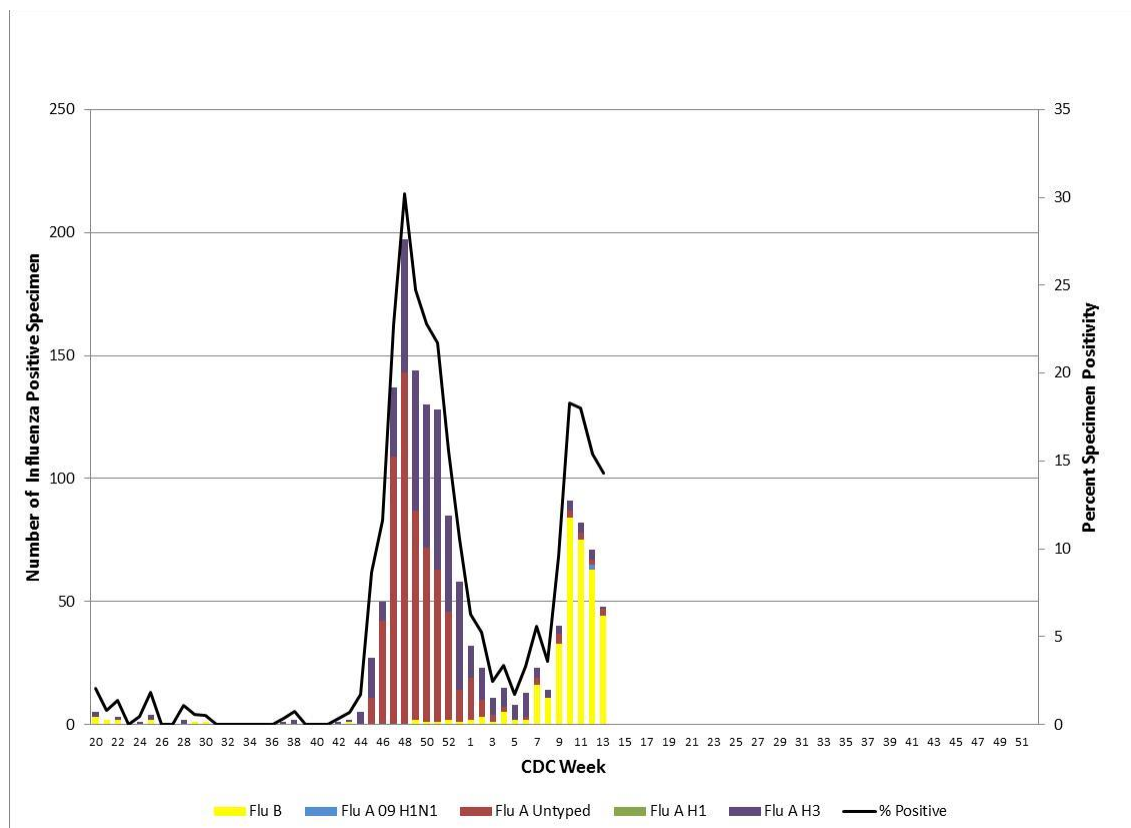
\*2014-2015 Season-to-Date through the week ending April 4, 2015 (Week 13). Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending April 4, 2015 (Week 13)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) and Rapid Influenza Tests**



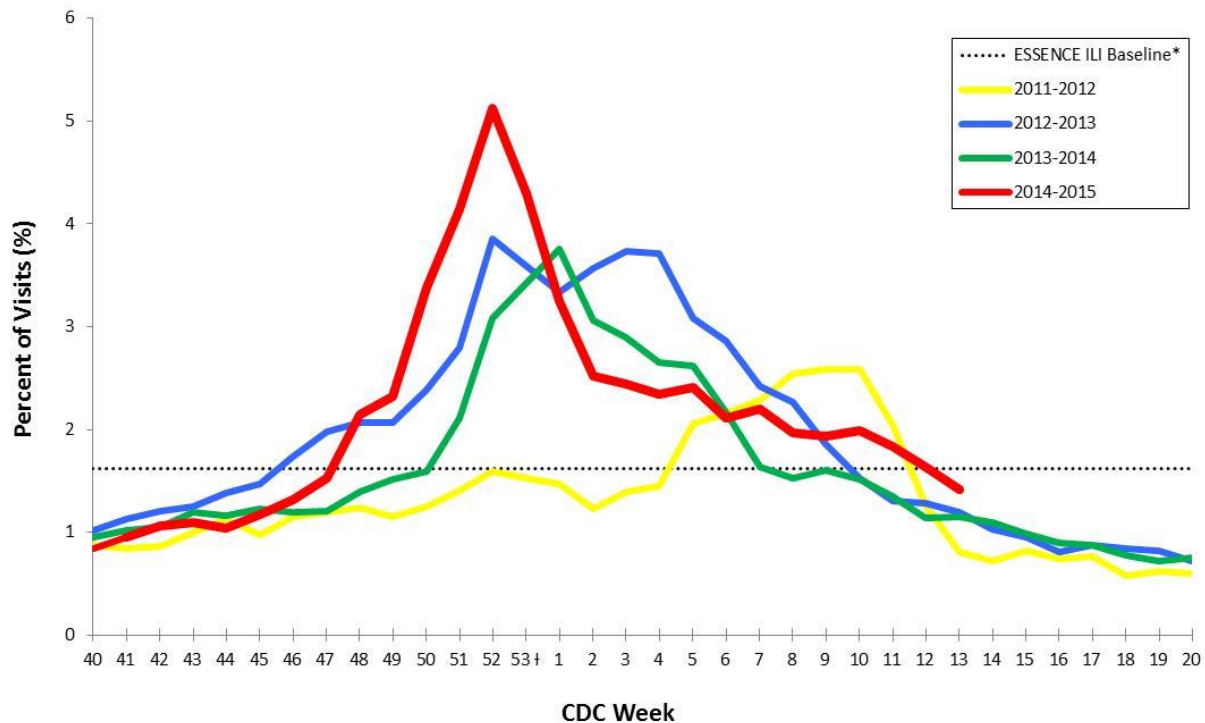
\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)



**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

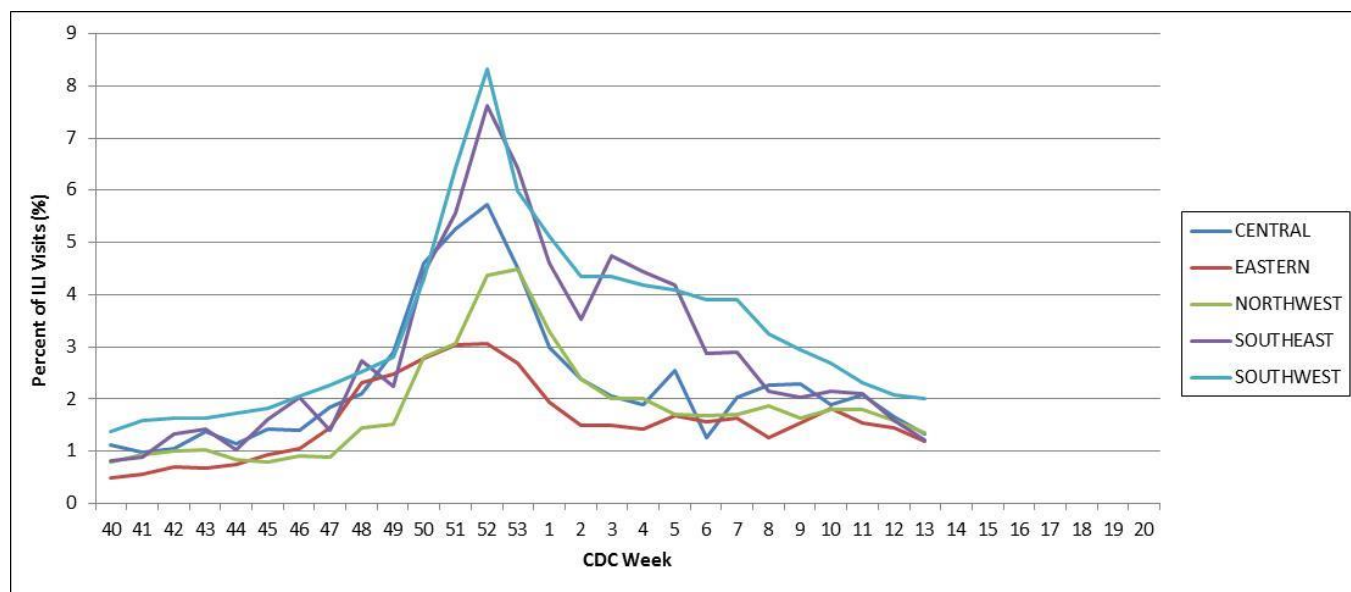
\*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 13 (March 29 – April 4, 2015)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	2.1%	2.1%	1.5%	0.8%	0.7%	1.4%
Central	3.3%	2.1%	1.2%	1.1%	0.6%	1.3%
Eastern	1.9%	1.9%	1.3%	0.7%	0.7%	1.2%
Southeast	3.1%	4.7%	0.9%	0.5%	0.0%	1.2%
Southwest	7.1%	4.3%	1.1%	1.2%	0.7%	2.0%
Statewide	3.1%	2.7%	1.3%	0.9%	0.7%	1.4%

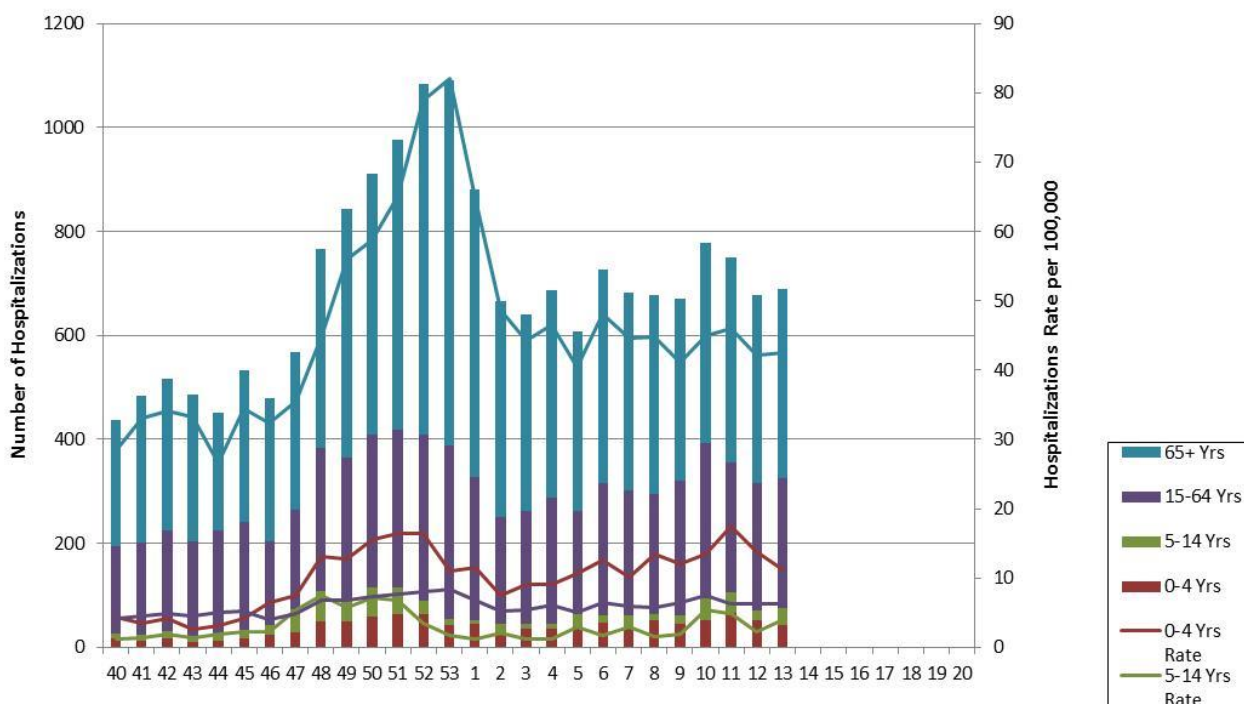
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
\*2014-2015 Season-to-Date through the week ending April 4, 2015 (Week 13)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).  
\*2014-2015 Season-to-Date through the week ending April 4, 2015 (Week 13)

## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

**Week 14: April 5 – April 11, 2015**

*All data are preliminary and may change as more reports are received.*

## Summary:

- The estimated influenza activity in Missouri is Local.<sup>2</sup>
- A season-to-date total of 52,127 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A remains the predominant type reported this season. Influenza B viruses accounted for 88% of reported cases during Week 14. The laboratory-confirmed influenza case reported by the Missouri State Public Health Laboratory (MSPHL) during Week 14 was influenza B.
- The Centers for Disease Control and Prevention (CDC) has antigenically characterized 15 influenza isolates so far this influenza season from Missouri: five A (H3N2) A/TEXAS/50/2012-like, seven A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, one B/MASSACHUSETTS/02/2012-like, and two B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from A/Texas/50/2012 vaccine virus and accounts for 77.9% of the influenza A (H3N2) viruses characterized from U.S. laboratories from October 1, 2014 – April 4, 2015. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for the Missouri Outpatient ILI Surveillance Network (ILINet) and is below baseline for the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 2.17% and 1.2% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years (26 cases per 100,000 population). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 88 deaths during Week 13, resulting in a season-to-date total of 2,472 P&I associated deaths in Missouri<sup>5</sup>.
- No outbreaks of influenza or ILI were reported during Week 14 in Missouri. No ILI-associated school closures were reported during Week 14.
- National influenza activity and surveillance information is prepared by the CDC. The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Local is defined as: Increased ILI in 1 region; ILI activity in other regions is not increased and recent (within the past 3 weeks) lab evidence of influenza in region with increased ILI. OR Two or more institutional outbreaks (ILI or lab confirmed) in 1 region; ILI activity in other regions is not increased and recent (within the past 3 weeks) lab evidence of influenza in region with the outbreak and virus activity is no greater than sporadic in other regions.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=96801e99430c4dc092d75f965deda99c>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 14
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 12 - 14 (March 22 – April 11, 2015)**

Influenza Type	Week 12	Week 13	Week 14	2014-2015* Season-to-Date
Influenza A	176	81	57	41,746
Influenza B	1,064	705	479	9,024
Influenza Unknown Or Untyped	29	20	7	1,357
Total	1,269	806	543	52,127

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 14 (April 5 – April 11, 2015)**

Age Group	Week 14 Cases	Week 14 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	98	26	9,587	2,528
05-14	117	15	14,743	1,876
15-64	269	7	20,431	514
65+	59	7	7,366	834
Total	543	9	52,127	866

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 14 (April 5 – April 11, 2015)**

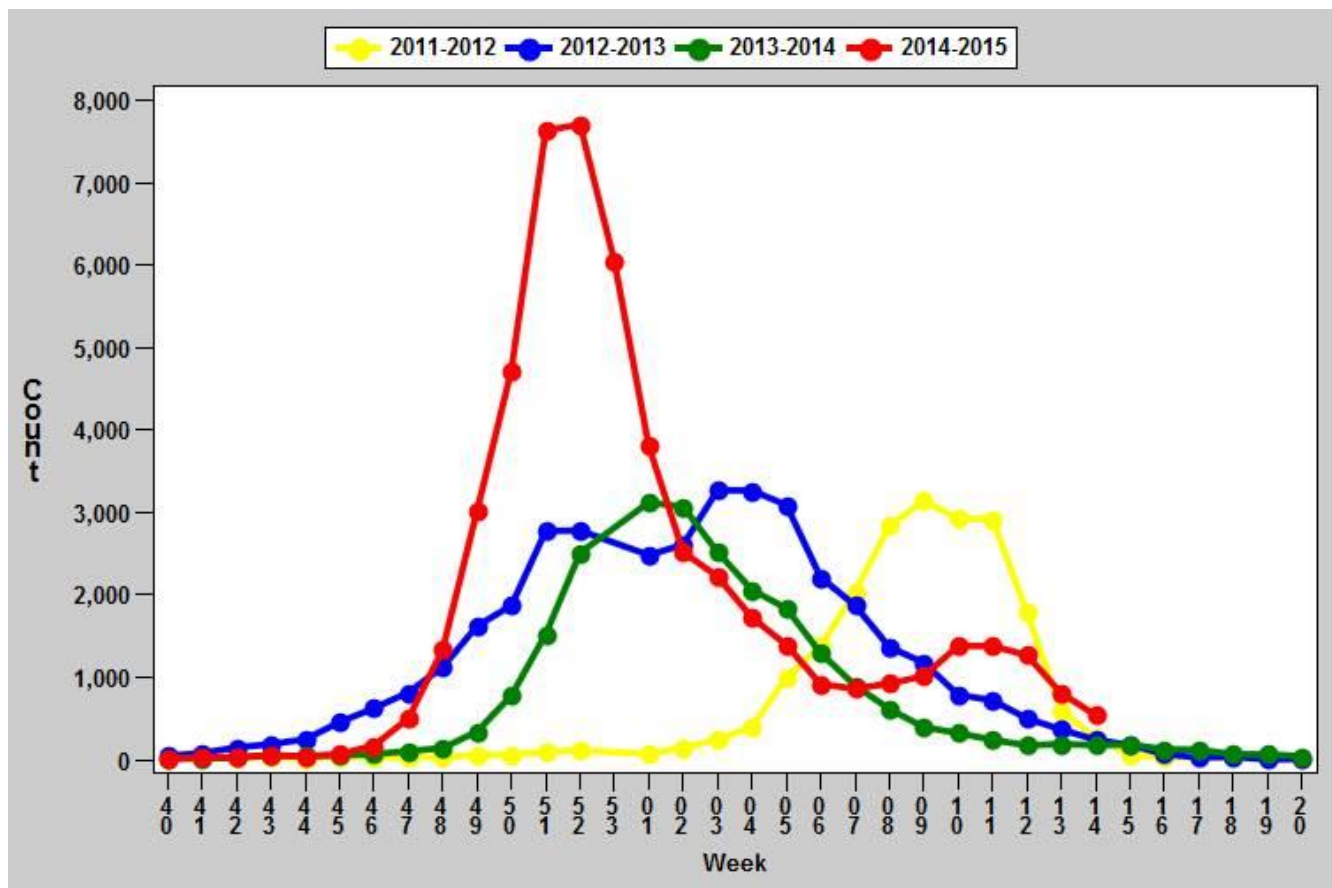
District	Week 14 Cases	Week 14 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	48	7	7,229	1,079
EA	256	11	14,623	652
NW	152	10	15,058	954
SE	36	8	5,655	1,191
SW	51	5	9,562	905
<b>Total</b>	<b>543</b>	<b>9</b>	<b>52,127</b>	<b>866</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

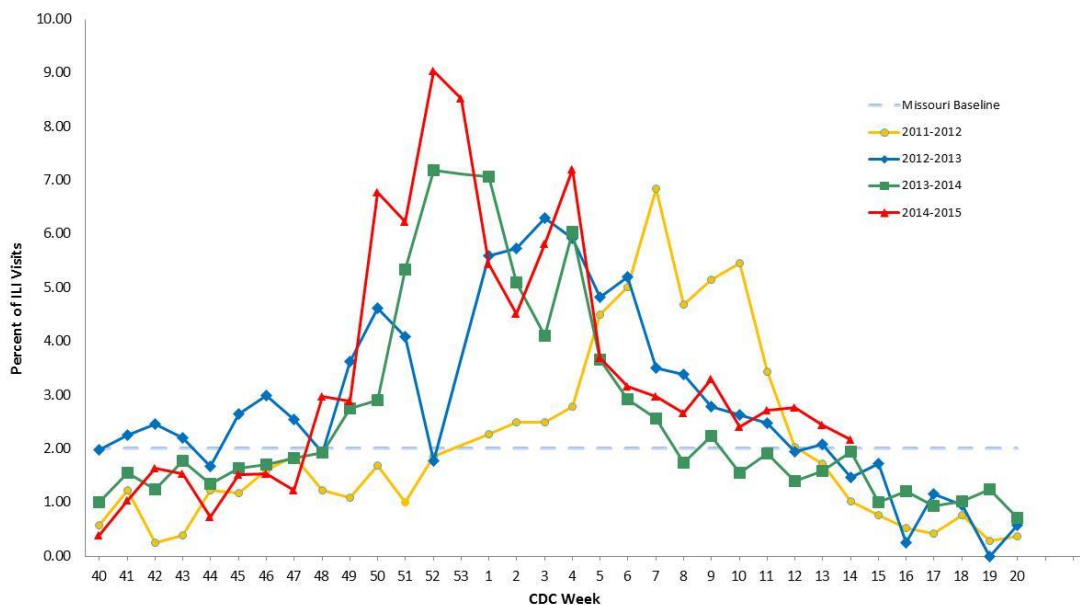
**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***



<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

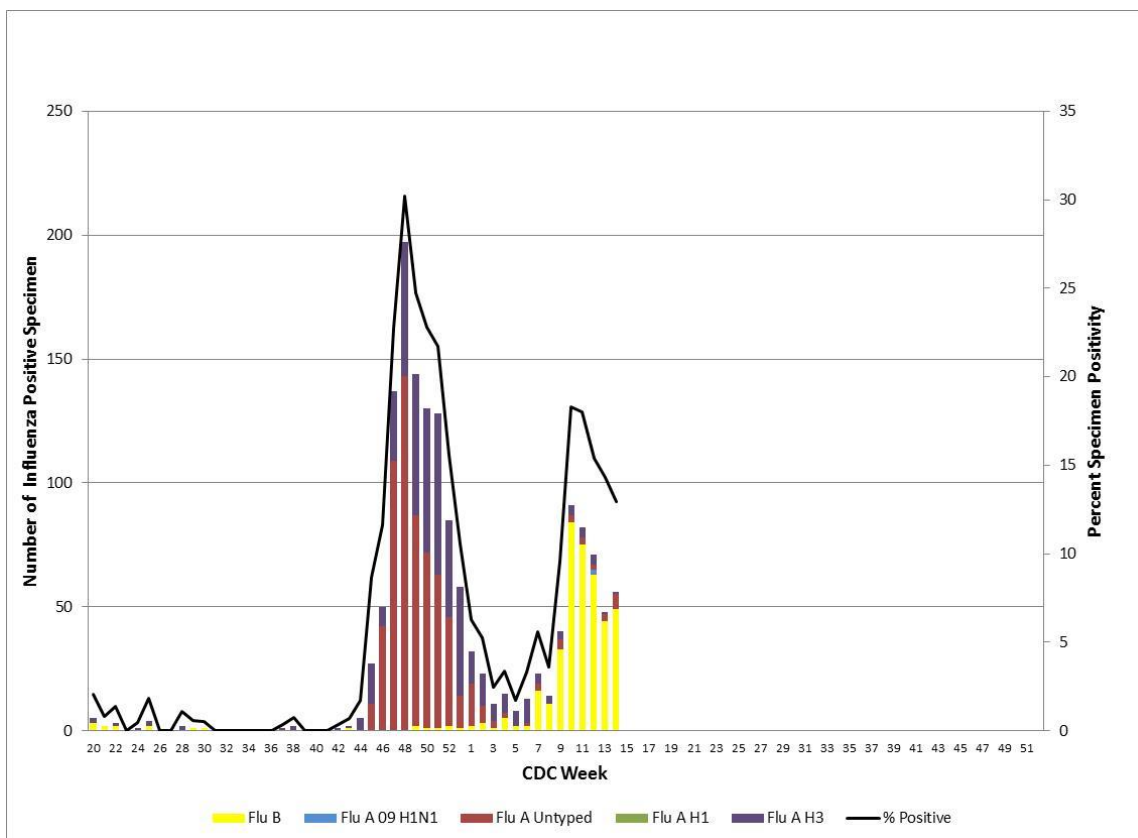
\*2014-2015 Season-to-Date through the week ending April 11, 2015 (Week 14). Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending April 11, 2015 (Week 14)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) and Rapid Influenza Tests**



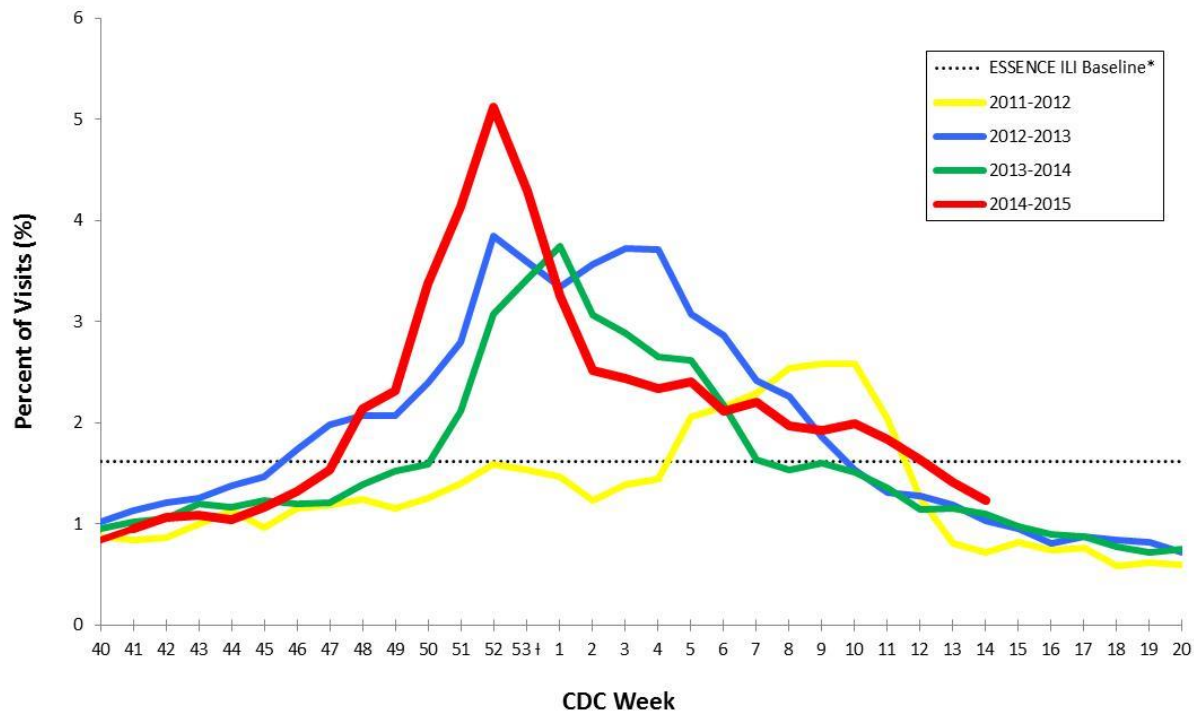
\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)



**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

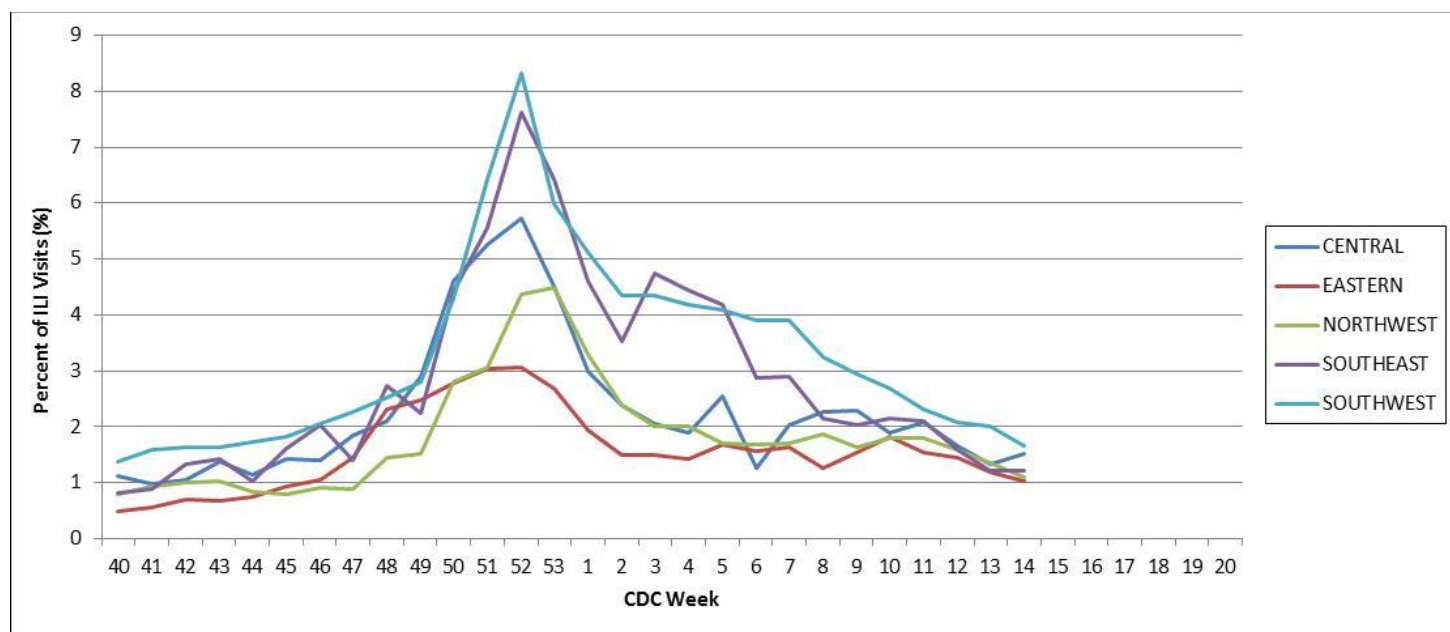
\*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 14 (April 5 – April 11, 2015)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	1.7%	1.6%	1.1%	1.0%	0.4%	1.1%
Central	3.0%	2.6%	1.9%	0.5%	0.8%	1.5%
Eastern	1.7%	1.4%	1.3%	0.6%	0.5%	1.0%
Southeast	4.8%	2.7%	0.7%	0.4%	0.8%	1.2%
Southwest	5.5%	4.9%	0.9%	0.8%	0.6%	1.7%
Statewide	2.7%	2.4%	1.2%	0.7%	0.5%	1.2%

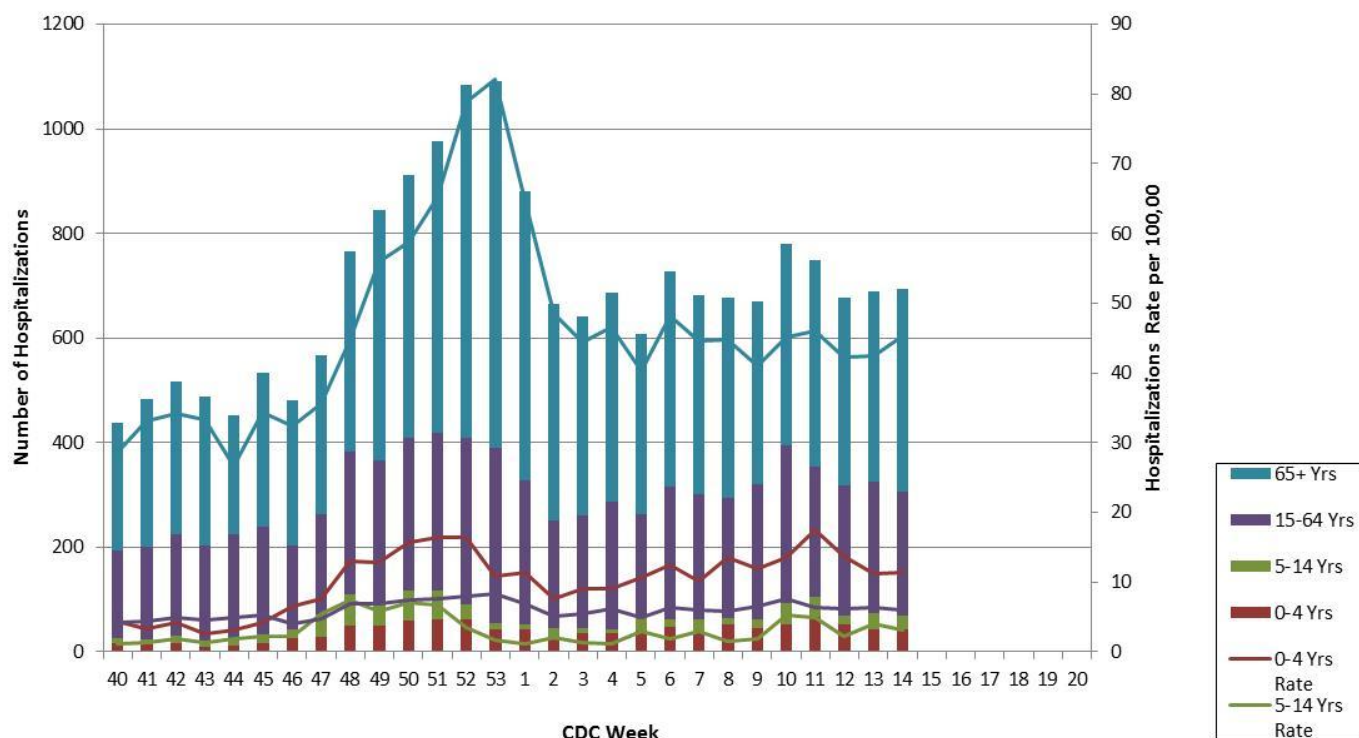
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
\*2014-2015 Season-to-Date through the week ending April 11, 2015 (Week 14)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).  
\*2014-2015 Season-to-Date through the week ending April 11, 2015 (Week 14)

## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 15: April 12 – April 18, 2015

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri is Local.<sup>2</sup>
- A season-to-date total of 52,877 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A remains the predominant type reported this season. Influenza B viruses accounted for 93% of reported cases during Week 15. There were no laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 15.
- The Centers for Disease Control and Prevention (CDC) has antigenically characterized 15 influenza isolates so far this influenza season from Missouri: five A (H3N2) A/TEXAS/50/2012-like, seven A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, one B/MASSACHUSETTS/02/2012-like, and two B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from A/Texas/50/2012 vaccine virus and accounts for 77.9% of the influenza A (H3N2) viruses characterized from U.S. laboratories from October 1, 2014 – April 11, 2015. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and for the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 1.25% and 1.0% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years (23 cases per 100,000 population). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 75 deaths during Week 14, resulting in a season-to-date total of 2,547 P&I associated deaths in Missouri<sup>5</sup>.
- Two outbreaks of influenza or ILI were reported during Week 15 in Missouri. No ILI-associated school closures were reported during Week 15.
- National influenza activity and surveillance information is prepared by the CDC. The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Local is defined as: Increased ILI in 1 region; ILI activity in other regions is not increased and recent (within the past 3 weeks) lab evidence of influenza in region with increased ILI. OR Two or more institutional outbreaks (ILI or lab confirmed) in 1 region; ILI activity in other regions is not increased and recent (within the past 3 weeks) lab evidence of influenza in region with the outbreak and virus activity is no greater than sporadic in other regions.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=ff8cc9847fcb4ab2b75ca1cb8fb29f1e>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 15
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 13 - 15 (March 29 – April 18, 2015)**

Influenza Type	Week 13	Week 14	Week 15	2014-2015* Season-to-Date
Influenza A	99	69	29	41,816
Influenza B	803	607	411	9,696
Influenza Unknown Or Untyped	20	11	4	1,365
Total	922	687	444	52,877

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 15 (April 12 – April 18, 2015)**

Age Group	Week 15 Cases	Week 15 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	86	23	9,714	2,561
05-14	85	11	14,889	1,895
15-64	220	6	20,808	524
65+	53	6	7,466	845
Total	444	7	52,877	878

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 15 (April 12 – April 18, 2015)**

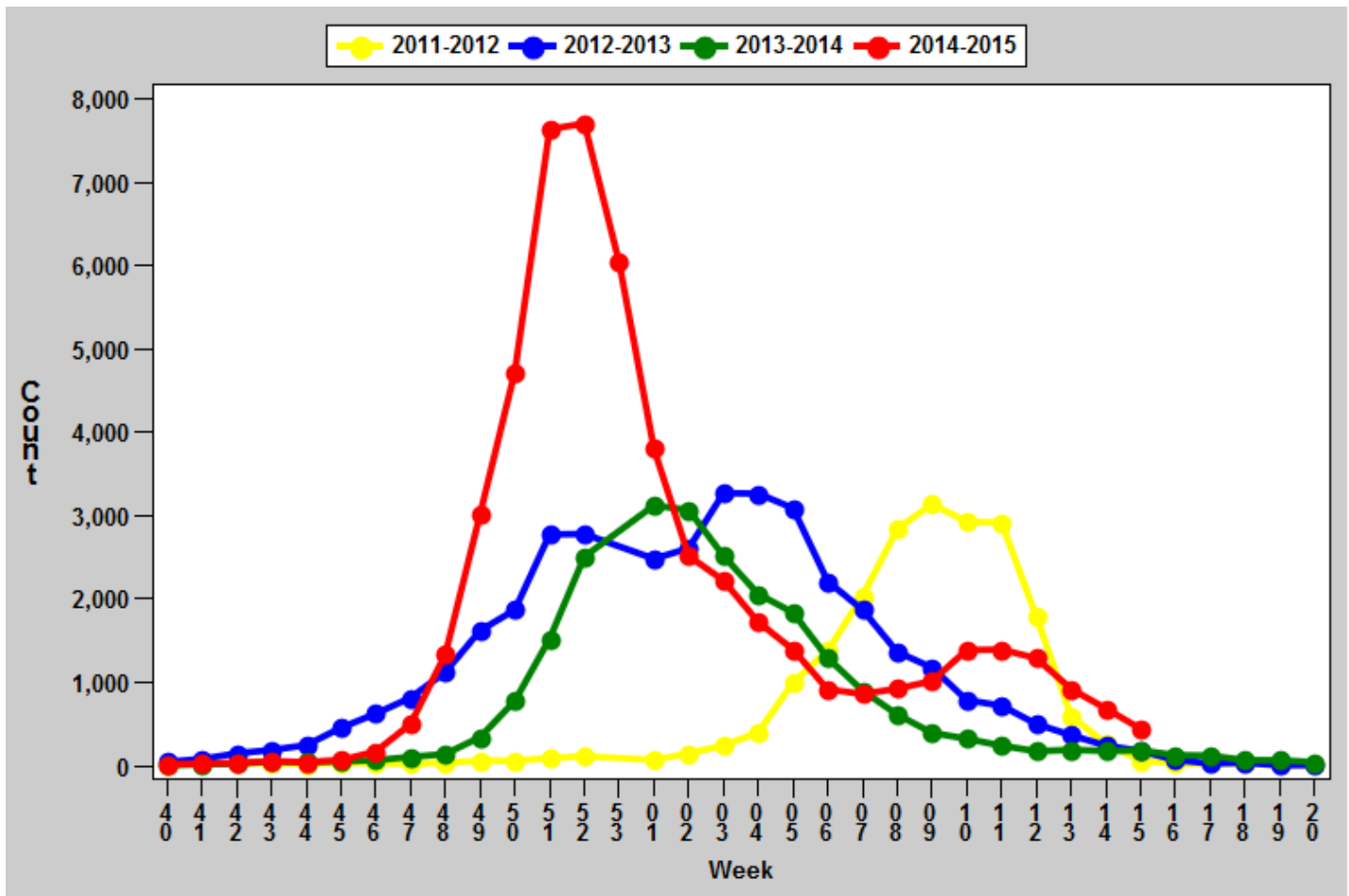
District	Week 15 Cases	Week 15 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	17	3	7,278	1,086
EA	264	12	14,993	669
NW	101	6	15,274	967
SE	40	8	5,702	1,201
SW	22	2	9,630	911
<b>Total</b>	<b>444</b>	<b>7</b>	<b>52,877</b>	<b>878</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

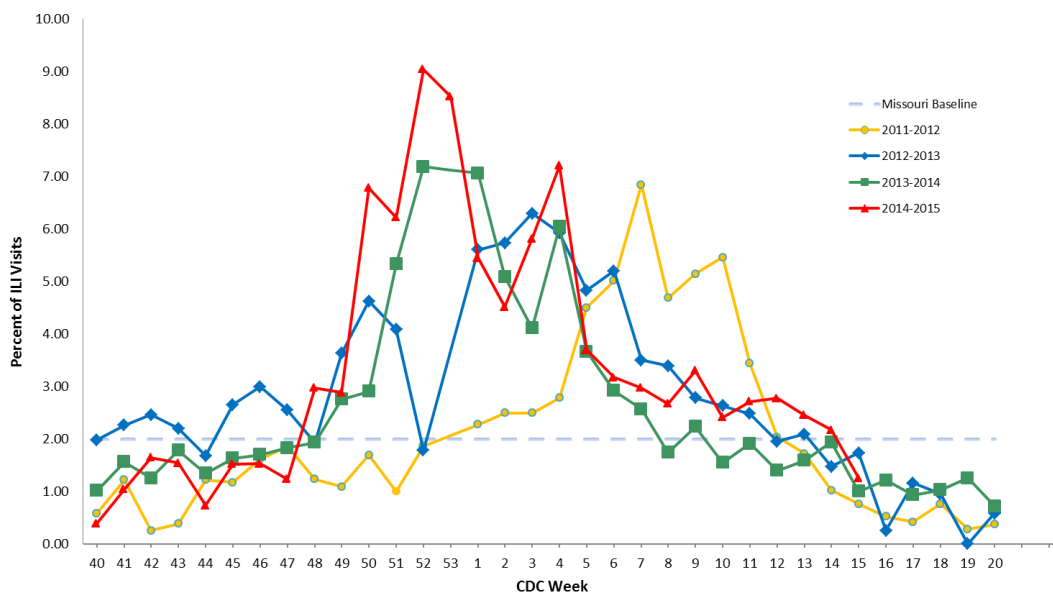
**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***



<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

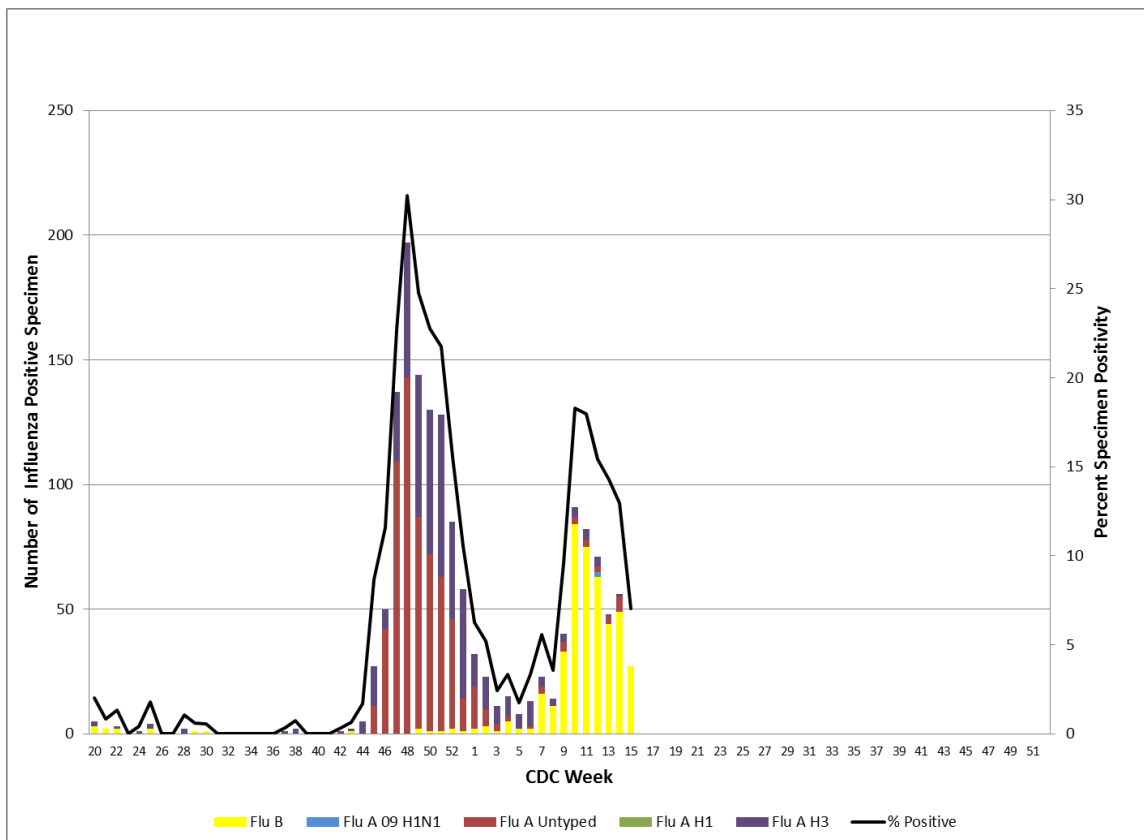
\*2014-2015 Season-to-Date through the week ending April 18, 2015 (Week 15). Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending April 18, 2015 (Week 15)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) and Rapid Influenza Tests**



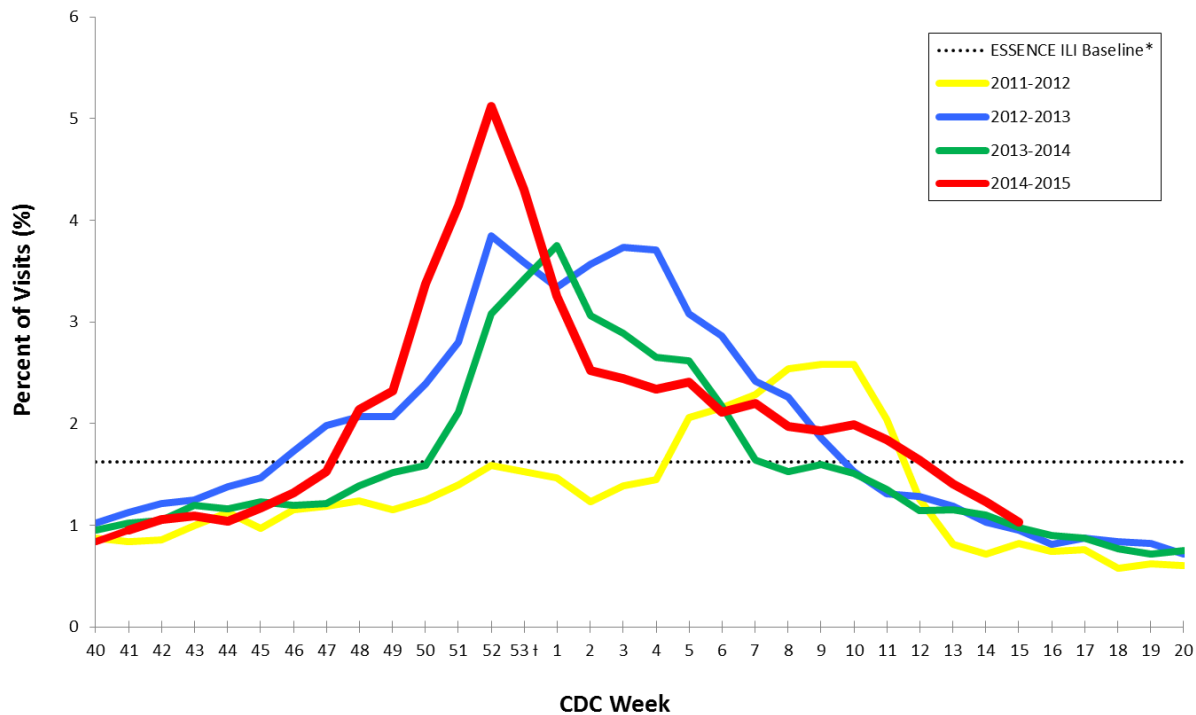
\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)



**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

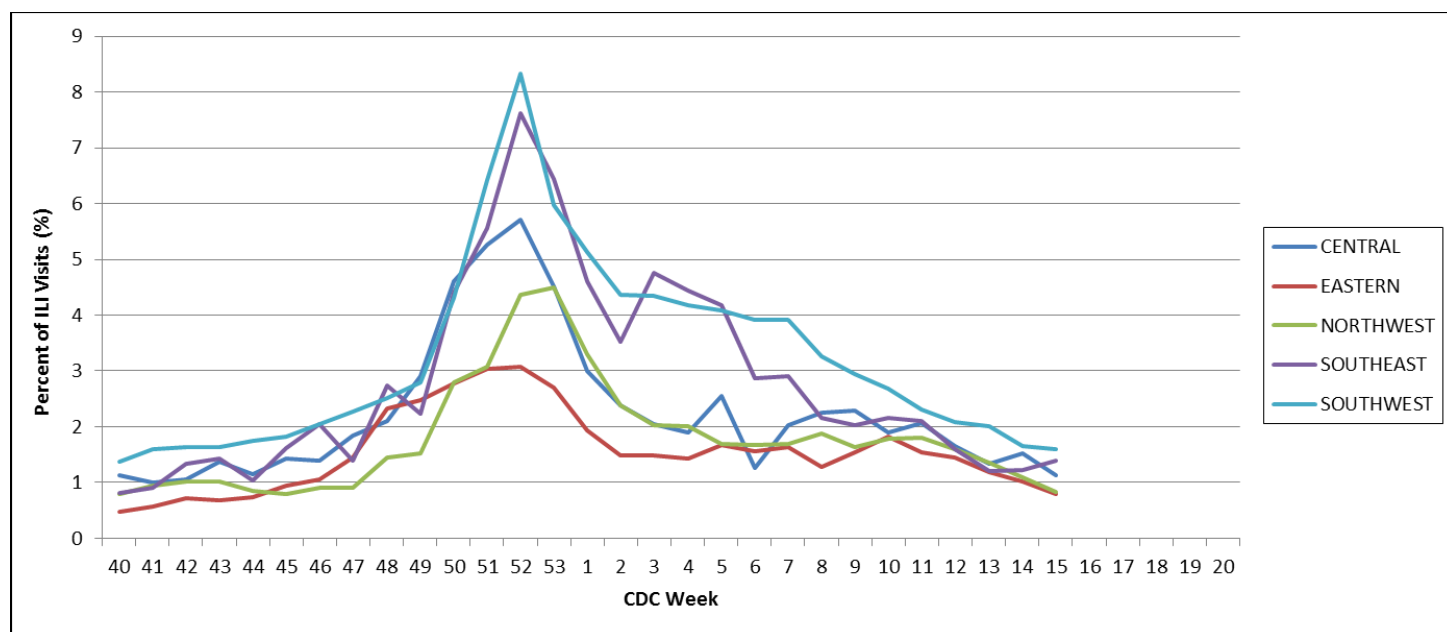
\*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 15 (April 12 – April 18, 2015)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	1.4%	1.2%	0.8%	0.8%	0.2%	0.8%
Central	3.9%	0.6%	1.1%	0.6%	0.9%	1.1%
Eastern	1.3%	1.0%	1.0%	0.6%	0.4%	0.8%
Southeast	4.6%	2.6%	1.5%	0.1%	0.6%	1.4%
Southwest	6.2%	3.4%	1.1%	0.6%	0.7%	1.6%
Statewide	2.6%	1.6%	1.0%	0.6%	0.5%	1.0%

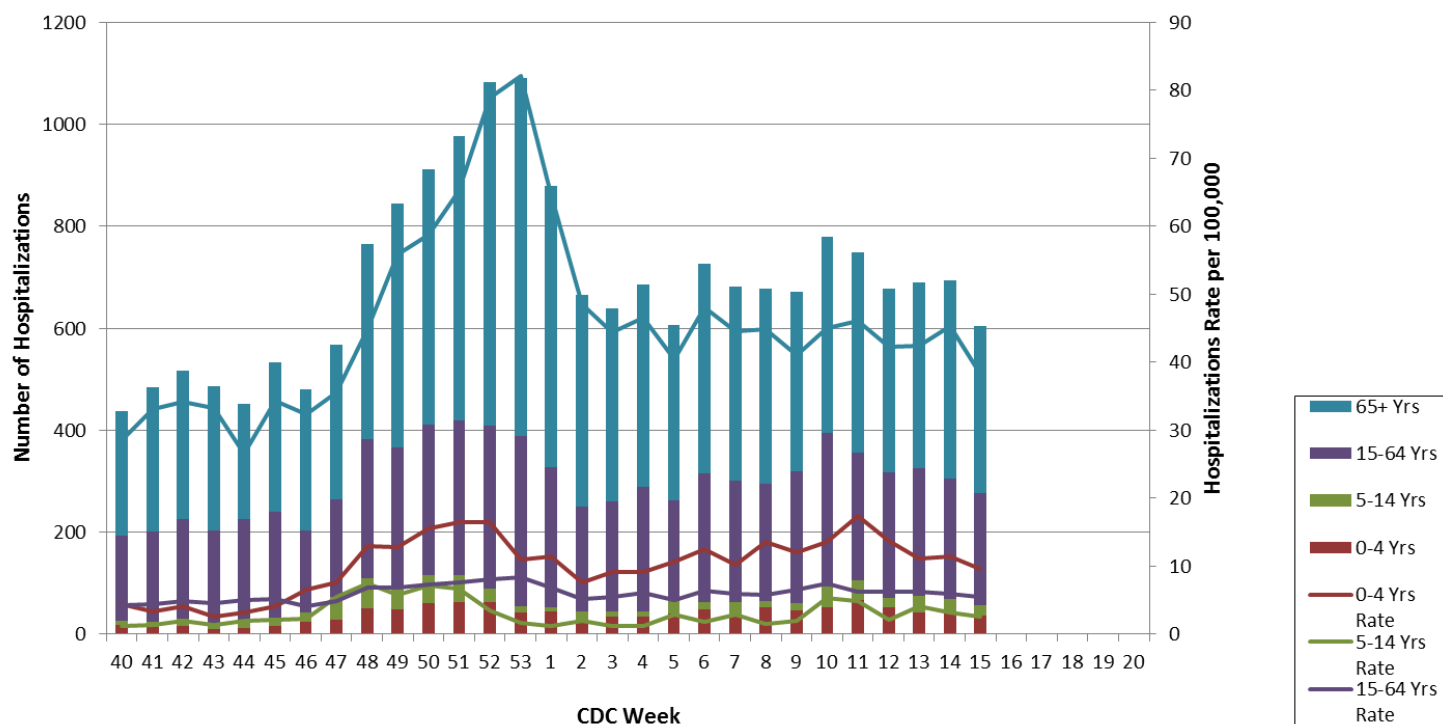
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
\*2014-2015 Season-to-Date through the week ending April 18, 2015 (Week 15)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).  
\*2014-2015 Season-to-Date through the week ending April 18, 2015 (Week 15)

## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

**Week 16: April 19 – April 25, 2015**

*All data are preliminary and may change as more reports are received.*

## Summary:

- The estimated influenza activity in Missouri is Sporadic.<sup>2</sup>
- A season-to-date total of 53,235 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A remains the predominant type reported this season. Influenza B viruses accounted for 94% of reported cases during Week 16. The laboratory-confirmed influenza case reported by the Missouri State Public Health Laboratory (MSPHL) during Week 16 was influenza B.
- The Centers for Disease Control and Prevention (CDC) has antigenically characterized 20 influenza isolates so far this influenza season from Missouri: five A (H3N2) A/TEXAS/50/2012-like, seven A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, three B/MASSACHUSETTS/02/2012-like, and five B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from A/Texas/50/2012 vaccine virus and accounts for 78.6% of the influenza A (H3N2) viruses characterized from U.S. laboratories from October 1, 2014 – April 18, 2015. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and for the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 1.57% and 1.0% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years (11 cases per 100,000 population). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records increased to 96 deaths during Week 15, resulting in a season-to-date total of 2,643 P&I associated deaths in Missouri<sup>5</sup>.
- No outbreaks of influenza or ILI were reported during Week 16 in Missouri. No ILI-associated school closures were reported during Week 16.
- National influenza activity and surveillance information is prepared by the CDC. The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Sporadic is defined as: influenza-like illness activity has not increased and there are isolated lab-confirmed cases or a lab-confirmed outbreak in a single institution in the state.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=9bb9622d25aa4c03a731fe2647136c49>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 16
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 14 - 16 (April 5 – April 25, 2015)**

Influenza Type	Week 14	Week 15	Week 16	2014-2015* Season-to-Date
Influenza A	72	41	12	41,848
Influenza B	647	464	205	10,018
Influenza Unknown Or Untyped	10	8	0	1,369
Total	729	513	217	53,235

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 16 (April 19 – April 25, 2015)**

Age Group	Week 16 Cases	Week 16 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	42	11	9,776	2,578
05-14	43	5	14,954	1,903
15-64	113	3	21,001	528
65+	19	2	7,504	850
Total	217	4	53,235	884

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 16 (April 19 – April 25, 2015)**

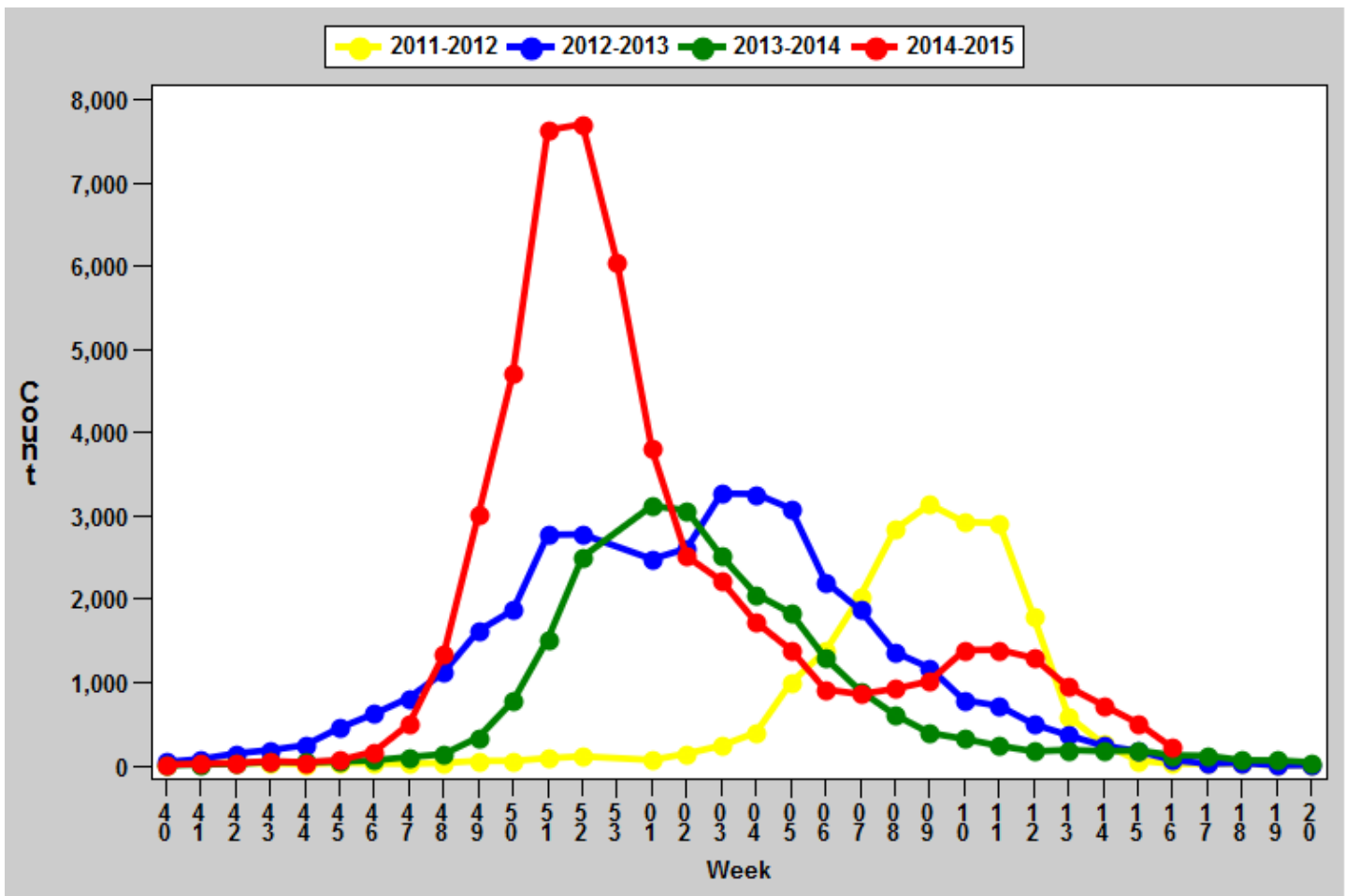
District	Week 16 Cases	Week 16 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	5	1	7,358	1,098
EA	147	7	15,140	675
NW	46	3	15,362	973
SE	4	1	5,710	1,203
SW	15	1	9,665	915
<b>Total</b>	<b>217</b>	<b>4</b>	<b>53,235</b>	<b>884</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

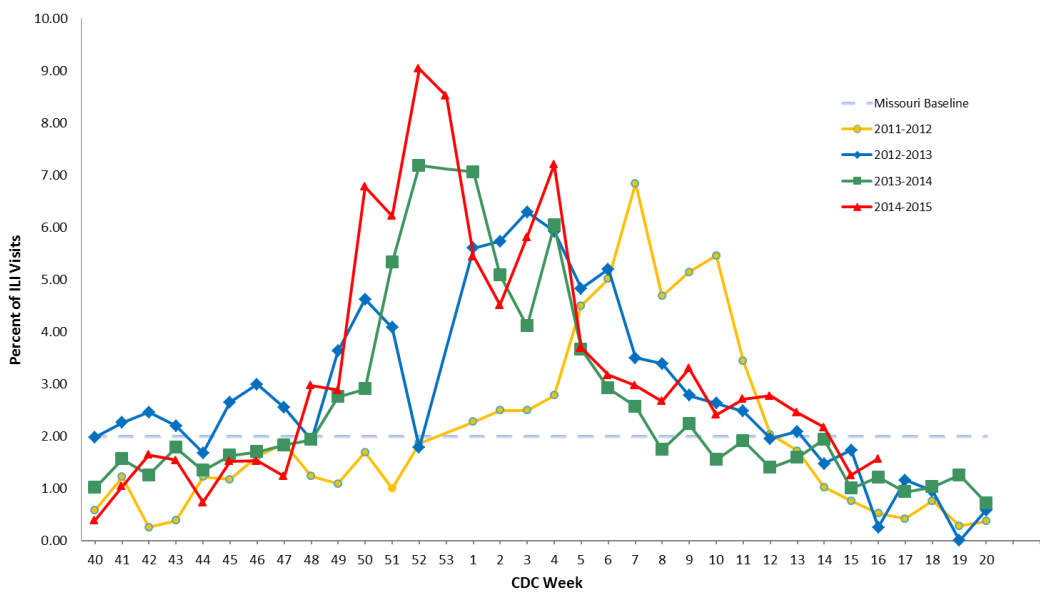
**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***



<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

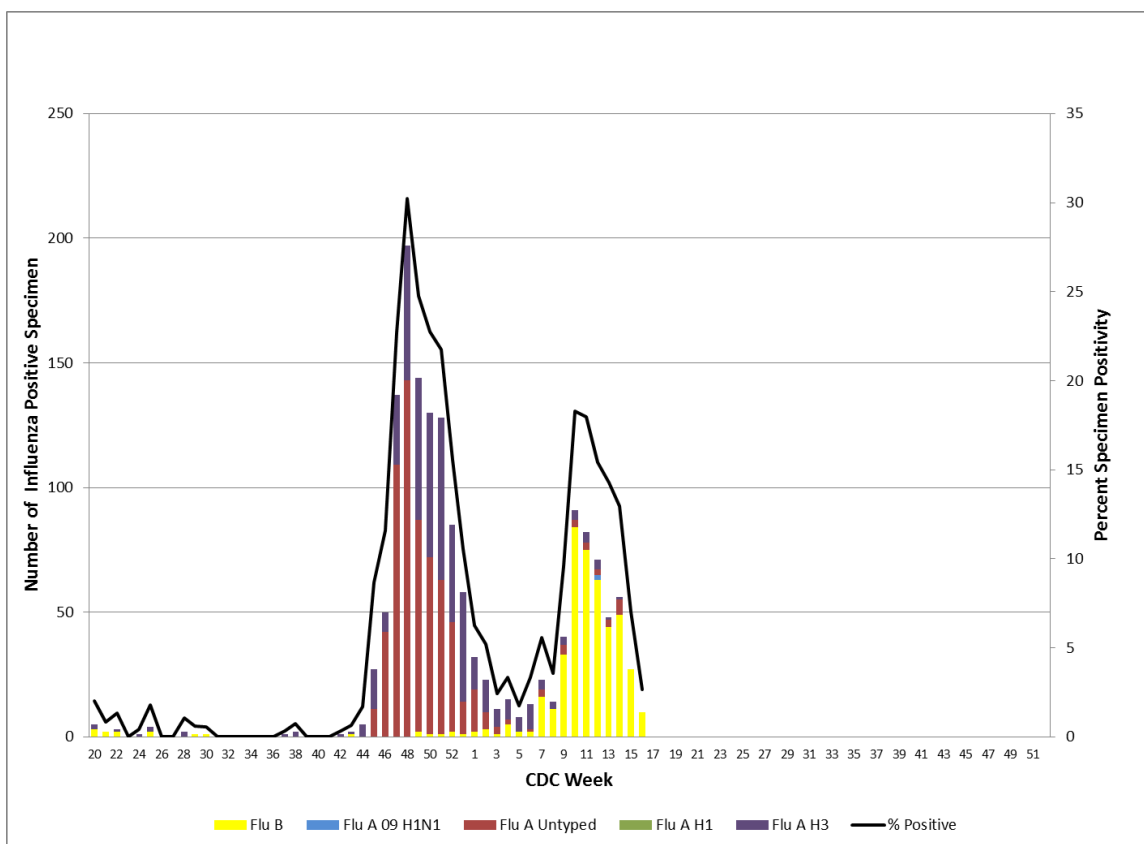
\*2014-2015 Season-to-Date through the week ending April 25, 2015 (Week 16). Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending April 25, 2015 (Week 16)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) and Rapid Influenza Tests**



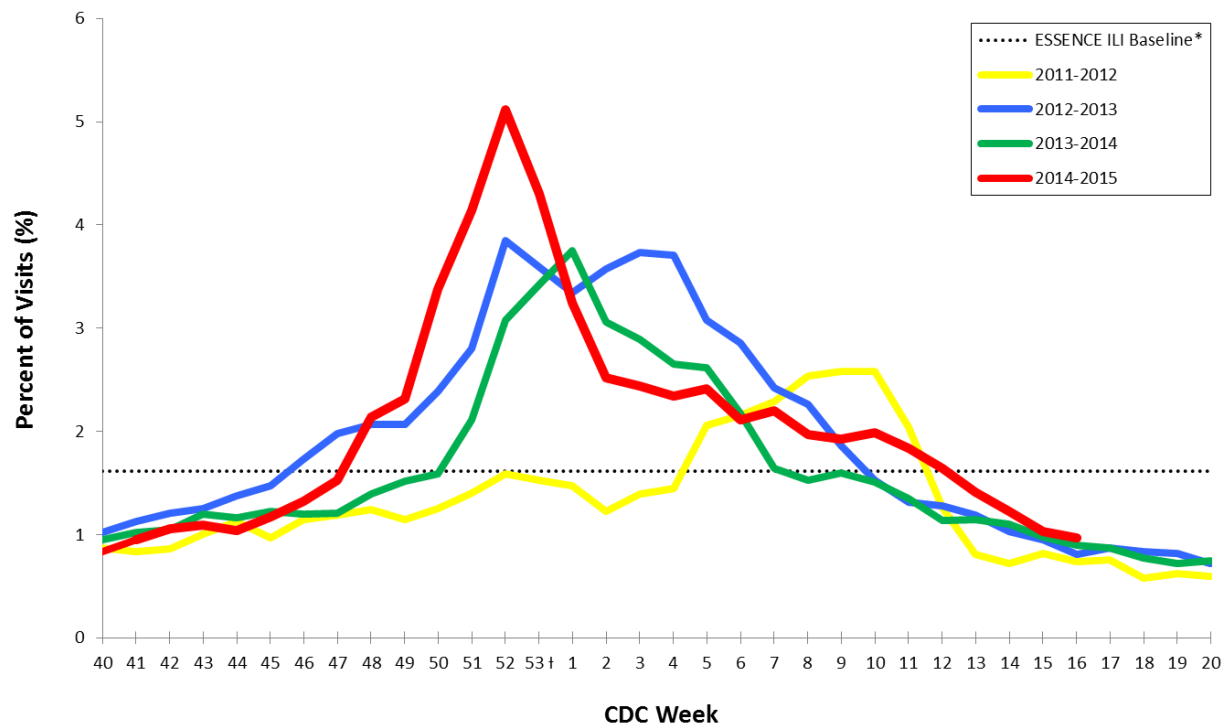
\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)



**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015<sup>†</sup>**



<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

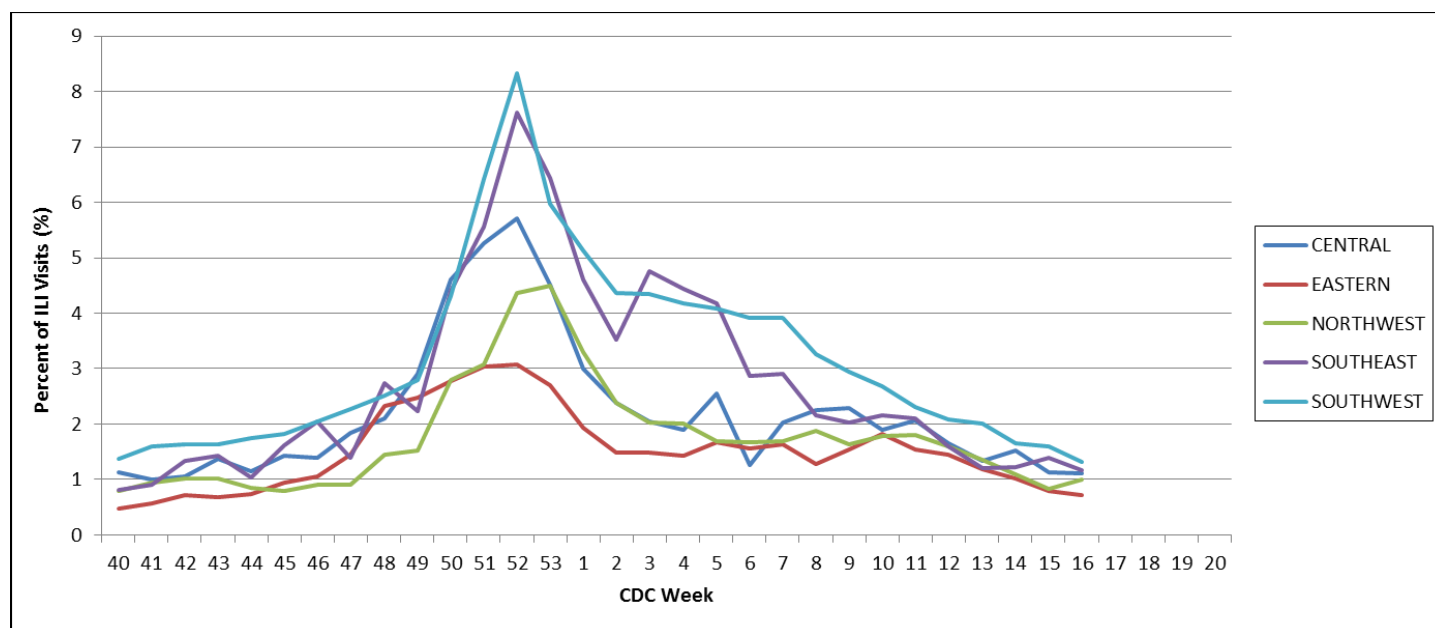
\*ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 16 (April 19 – April 25, 2015)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	1.4%	1.8%	1.1%	0.6%	0.5%	1.0%
Central	1.9%	1.7%	1.0%	0.7%	1.0%	1.1%
Eastern	1.1%	1.1%	0.9%	0.5%	0.3%	0.7%
Southeast	6.8%	3.9%	0.5%	0.0%	0.3%	1.2%
Southwest	5.2%	2.7%	0.8%	0.9%	0.3%	1.3%
Statewide	2.3%	1.8%	0.9%	0.6%	0.4%	1.0%

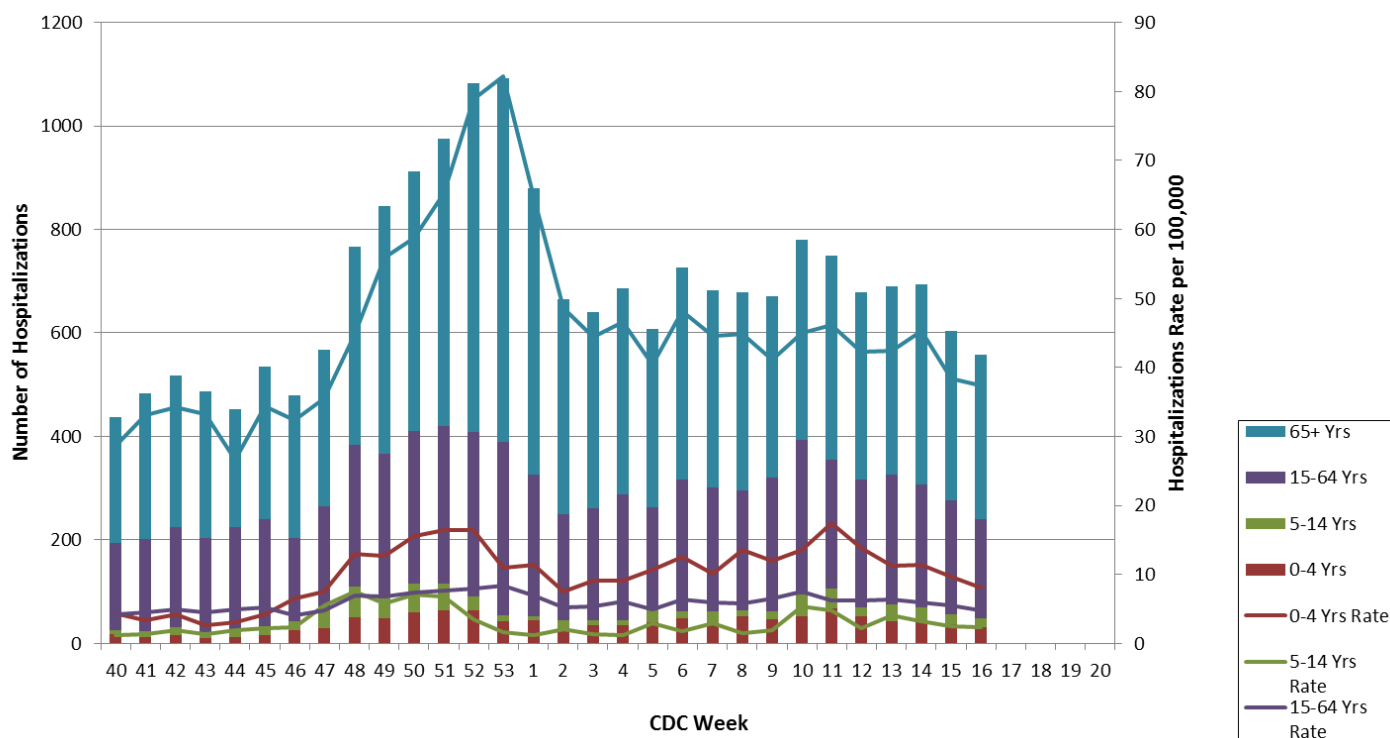
<sup>†</sup> Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



† Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
\*2014-2015 Season-to-Date through the week ending April 25, 2015 (Week 16)

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



† Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).  
\*2014-2015 Season-to-Date through the week ending April 25, 2015 (Week 16)

## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

**Week 17: April 26 – May 2, 2015**

*All data are preliminary and may change as more reports are received.*

## Summary:

- The estimated influenza activity in Missouri is Sporadic.<sup>2</sup>
- A season-to-date total of 53,898 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A remains the predominant type reported this season. Influenza B viruses accounted for 87% of reported cases during Week 17. There were no laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 17.
- The Centers for Disease Control and Prevention (CDC) has antigenically characterized 20 influenza isolates so far this influenza season from Missouri: five A (H3N2) A/TEXAS/50/2012-like, seven A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, three B/MASSACHUSETTS/02/2012-like, and five B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from A/Texas/50/2012 vaccine virus and accounts for 80.1% of the influenza A (H3N2) viruses characterized from U.S. laboratories from October 1, 2014 – April 25, 2015. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is above baseline for the Missouri Outpatient ILI Surveillance Network (ILINet) and below baseline for the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 2.08% and 1.0% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years (8 cases per 100,000 population). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 85 deaths during Week 16, resulting in a season-to-date total of 2,728 P&I associated deaths in Missouri<sup>5</sup>.
- No outbreaks of influenza or ILI were reported during Week 17 in Missouri. No ILI-associated school closures were reported during Week 17.
- National influenza activity and surveillance information is prepared by the CDC. The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Sporadic is defined as: influenza-like illness activity has not increased and there are isolated lab-confirmed cases or a lab-confirmed outbreak in a single institution in the state.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=94698829b99f402ca6177dba4683a073>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 17
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 15 - 17 (April 12 – May 2, 2015)**

Influenza Type	Week 15	Week 16	Week 17	2014-2015* Season-to-Date
Influenza A	44	19	20	41,888
Influenza B	531	320	132	10,630
Influenza Unknown Or Untyped	8	2	0	1,380
Total	583	341	152	53,898

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 17 (April 26 – May 2, 2015)**

Age Group	Week 17 Cases	Week 17 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	31	8	9,856	2,599
05-14	30	4	15,093	1,921
15-64	73	2	21,378	538
65+	18	2	7,571	857
Total	152	3	53,898	895

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 17 (April 26 – May 2, 2015)**

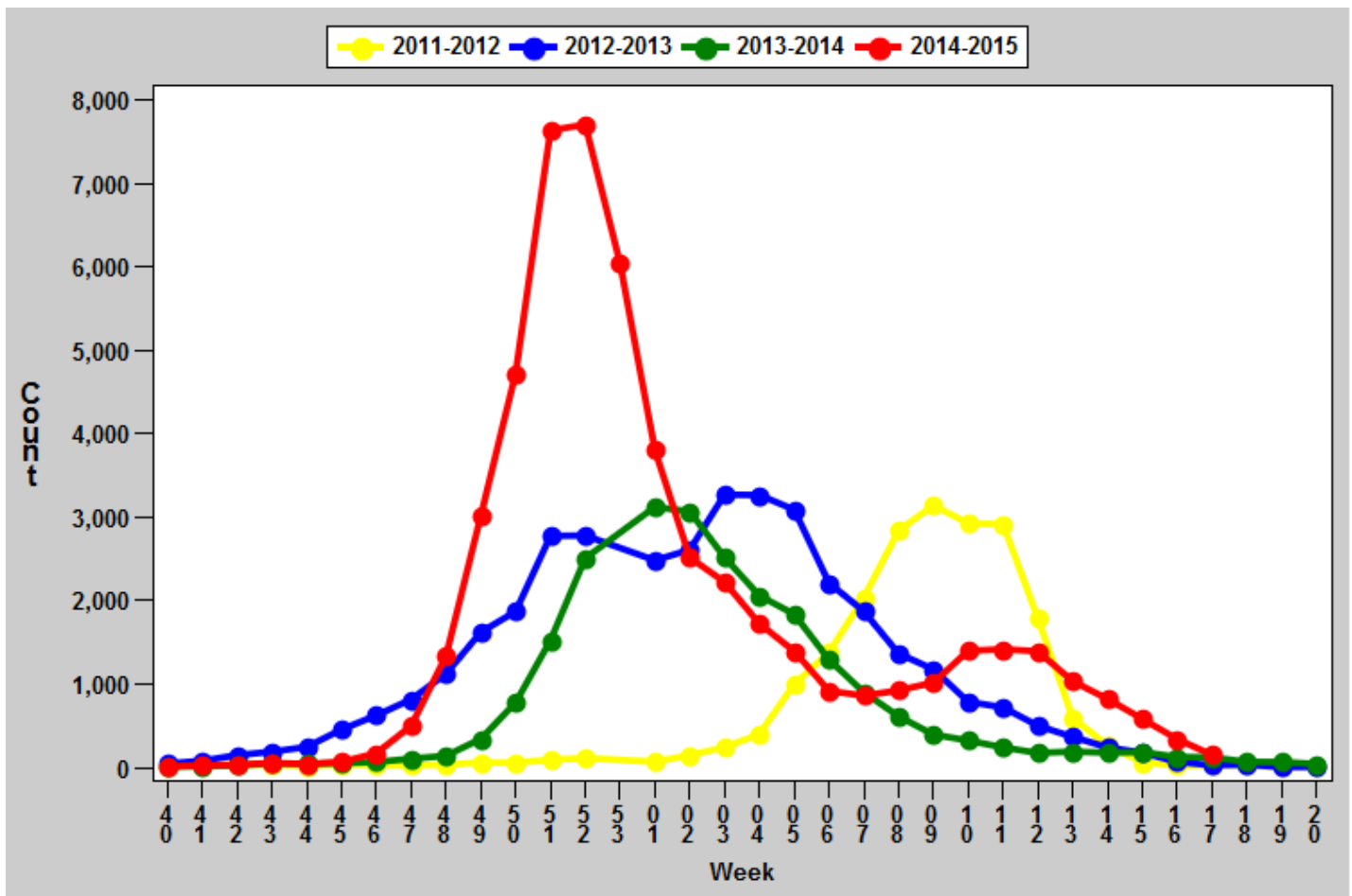
District	Week 17 Cases	Week 17 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	0	0	7,370	1,100
EA	105	5	15,635	698
NW	24	2	15,448	979
SE	9	2	5,740	1,209
SW	14	1	9,705	918
<b>Total</b>	<b>152</b>	<b>3</b>	<b>53,898</b>	<b>895</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

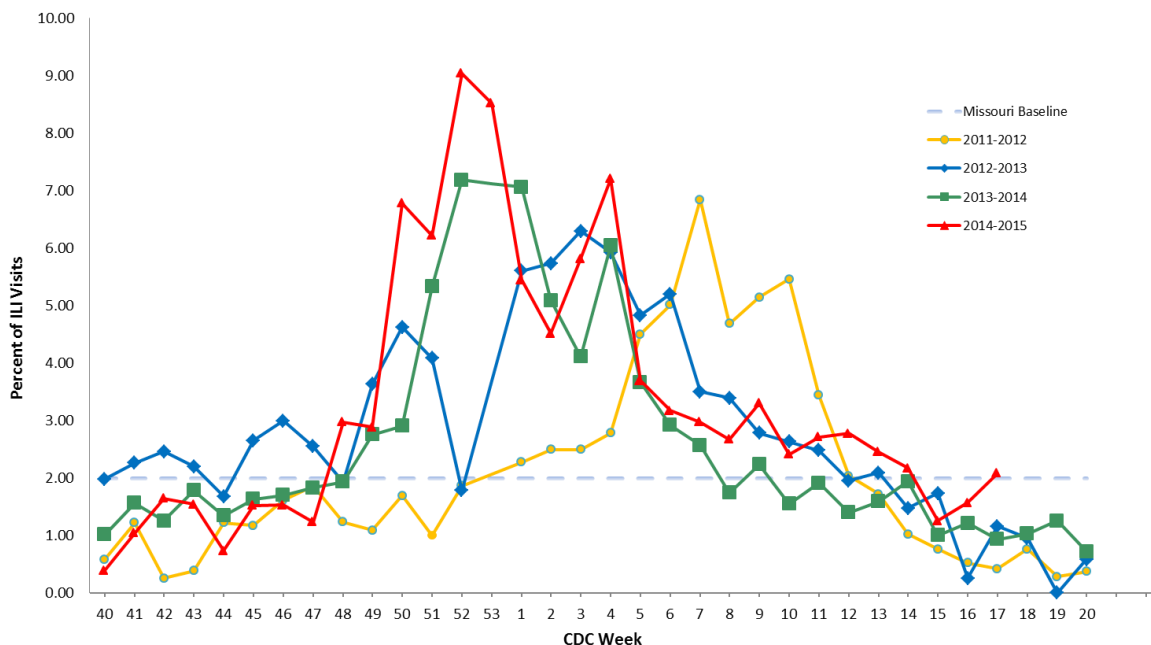
**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***



<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

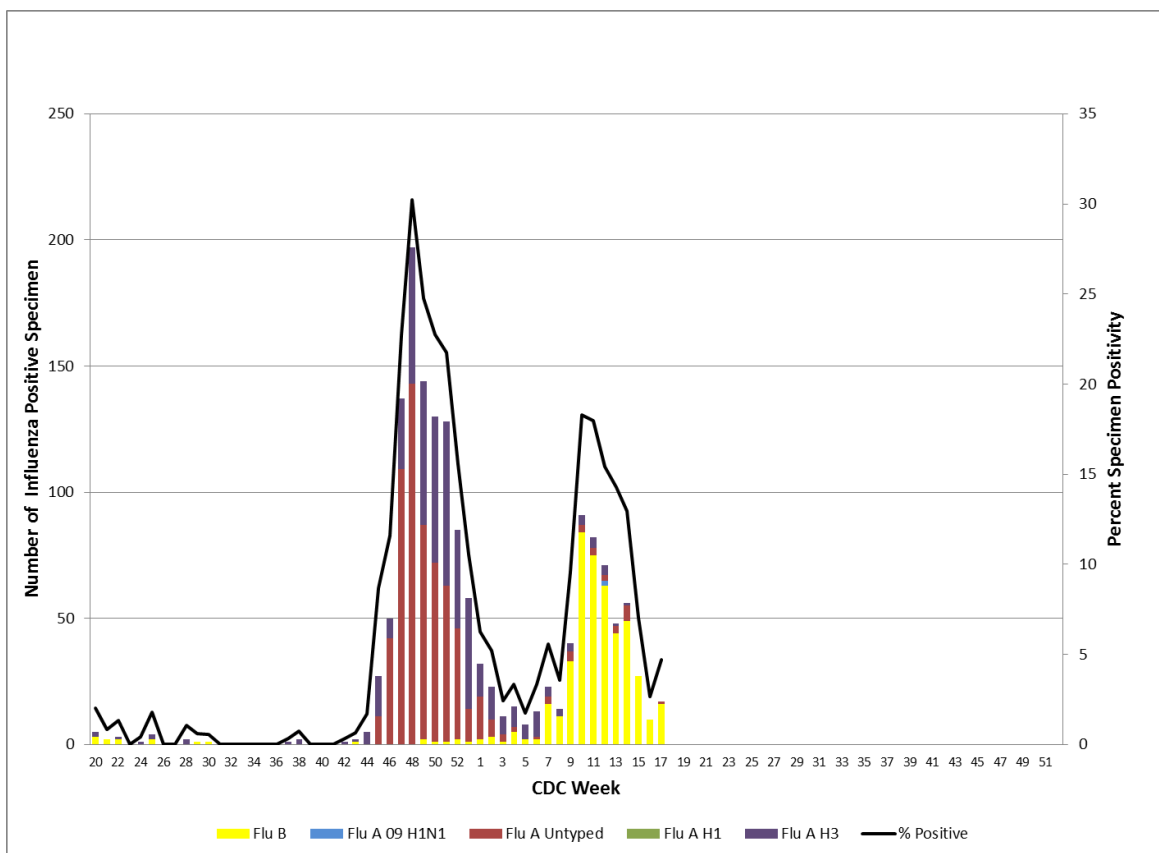
\*2014-2015 Season-to-Date through the week ending May 2, 2015 (Week 17). Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending May 2, 2015 (Week 17)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) and Rapid Influenza Tests**

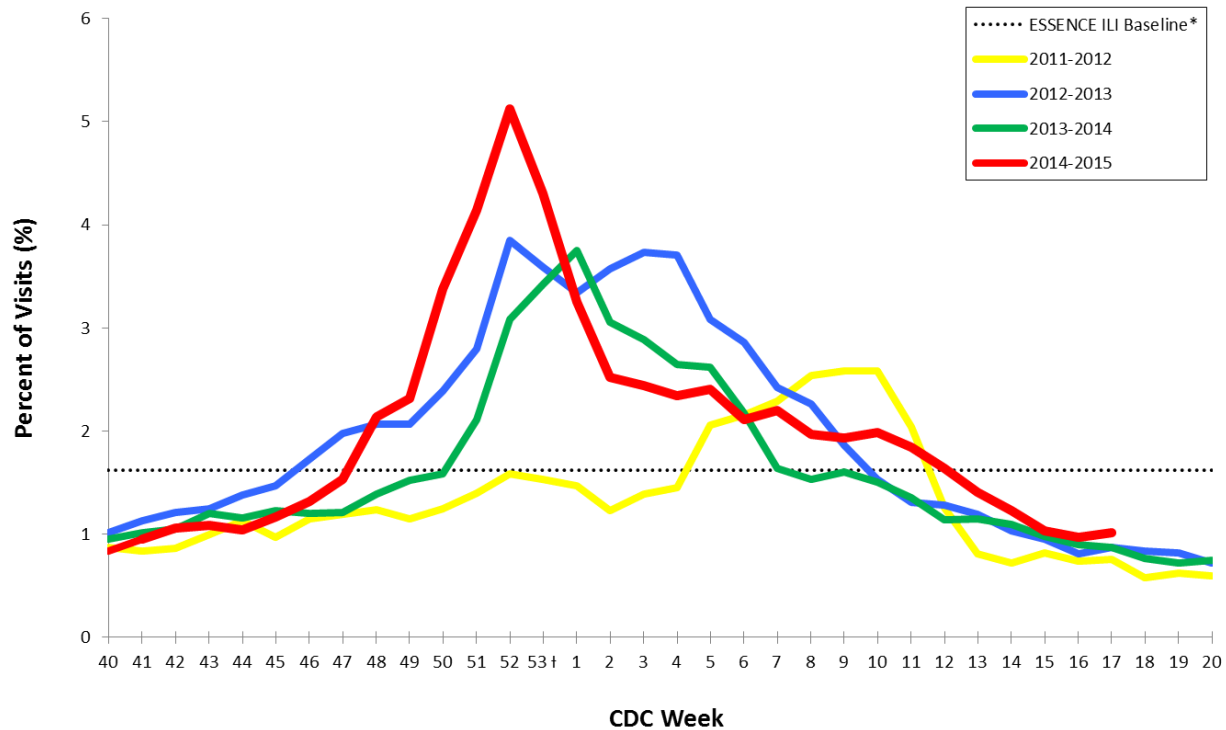


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015**



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

\* The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

† ILI % for week 53 was estimated for previous seasons by averaging values for weeks 52 and 1 in order to compare to the ILI % for week 53 of the 2014-15 influenza season.

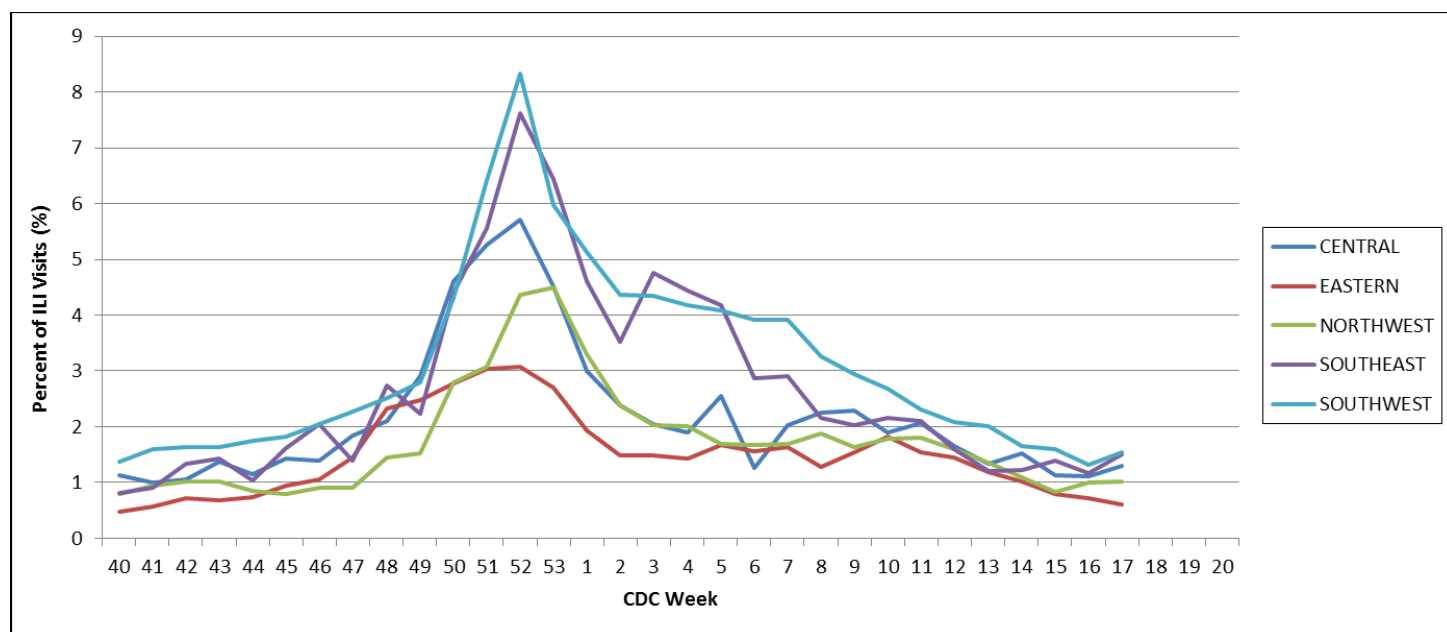
**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 17 (April 26 – May 2, 2015)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	1.9%	2.0%	1.0%	0.7%	0.3%	1.0%
Central	4.1%	2.2%	1.0%	0.8%	0.7%	1.3%
Eastern	0.9%	1.1%	0.7%	0.4%	0.2%	0.6%
Southeast	4.8%	5.2%	1.0%	0.4%	0.5%	1.5%
Southwest	6.3%	3.6%	0.8%	0.7%	0.4%	1.5%
Statewide	2.7%	2.2%	0.8%	0.6%	0.3%	1.0%

Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

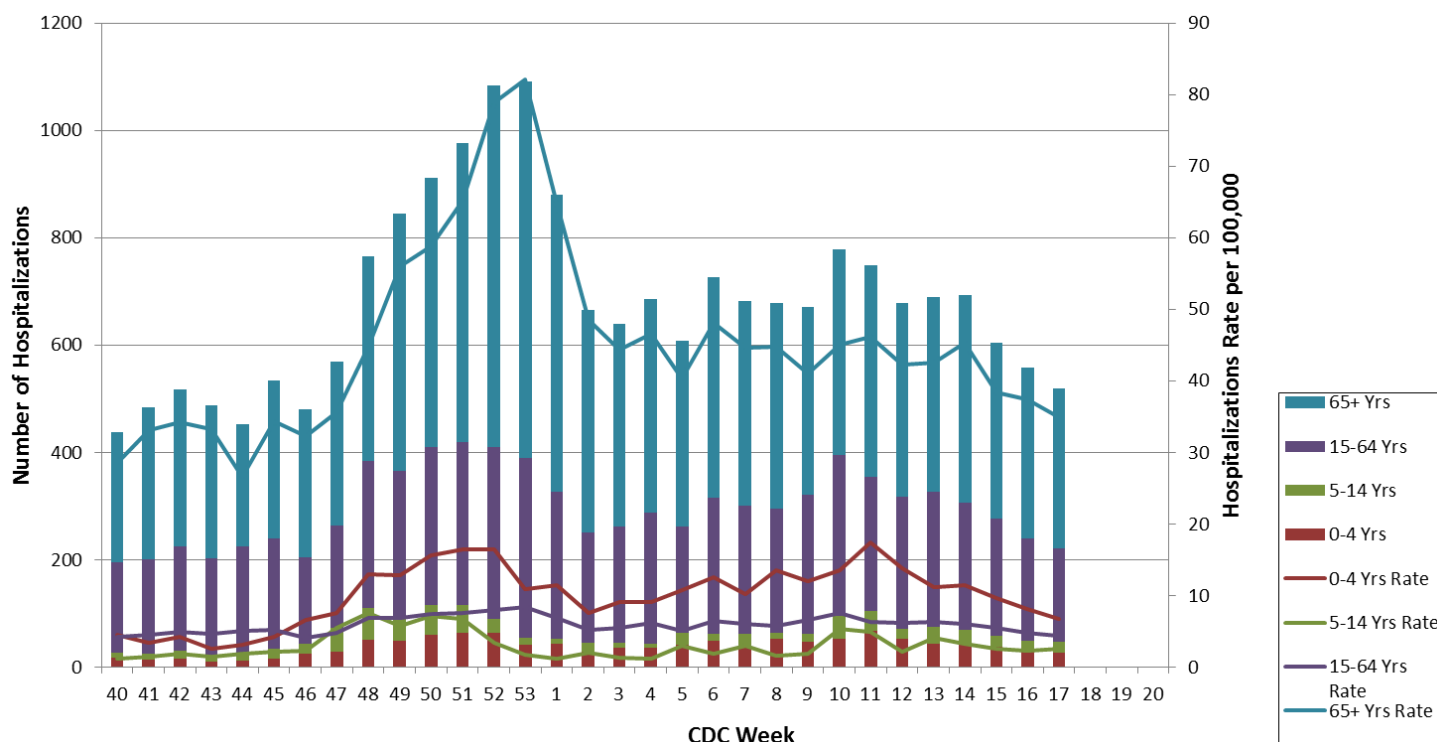


**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). \*2014-2015 Season-to-Date through the week ending May 2, 2015 (Week 17).

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>). \*2014-2015 Season-to-Date through the week ending May 2, 2015 (Week 17).

## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 18: May 3 – May 9, 2015

*All data are preliminary and may change as more reports are received.*

### Summary:

- The estimated influenza activity in Missouri is Sporadic.<sup>2</sup>
- A season-to-date total of 54,149 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A remains the predominant type reported this season. Influenza B viruses accounted for 89% of reported cases during Week 18. The laboratory-confirmed influenza case reported by the Missouri State Public Health Laboratory (MSPHL) during Week 18 was influenza B.
- The Centers for Disease Control and Prevention (CDC) has antigenically characterized 20 influenza isolates so far this influenza season from Missouri: five A (H3N2) A/TEXAS/50/2012-like, seven A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, three B/MASSACHUSETTS/02/2012-like, and five B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from A/Texas/50/2012 vaccine virus and accounts for 80.2% of the influenza A (H3N2) viruses characterized from U.S. laboratories from October 1, 2014 – May 2, 2015. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 1.20% and 0.9% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years (3 cases per 100,000 population). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 81 deaths during Week 17, resulting in a season-to-date total of 2,809 P&I associated deaths in Missouri<sup>5</sup>.
- No outbreaks of influenza or ILI were reported during Week 18 in Missouri. No ILI-associated school closures were reported during Week 18.
- National influenza activity and surveillance information is prepared by the CDC. The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Sporadic is defined as: influenza-like illness activity has not increased and there are isolated lab-confirmed cases or a lab-confirmed outbreak in a single institution in the state.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=fe28480094884d708e48f92dc6d33a87>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 18
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 16 - 18 (April 19 – May 9, 2015)**

Influenza Type	Week 16	Week 17	Week 18	2014-2015* Season-to-Date
Influenza A	19	24	7	41,935
Influenza B	324	193	54	10,830
Influenza Unknown Or Untyped	2	0	0	1,384
Total	345	217	61	54,149

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 18 (May 3 – May 9, 2015)**

Age Group	Week 18 Cases	Week 18 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	13	3	9,893	2,609
05-14	13	2	15,133	1,926
15-64	29	1	21,523	542
65+	6	1	7,600	861
Total	61	1	54,149	899

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 18 (May 3 – May 9, 2015)**

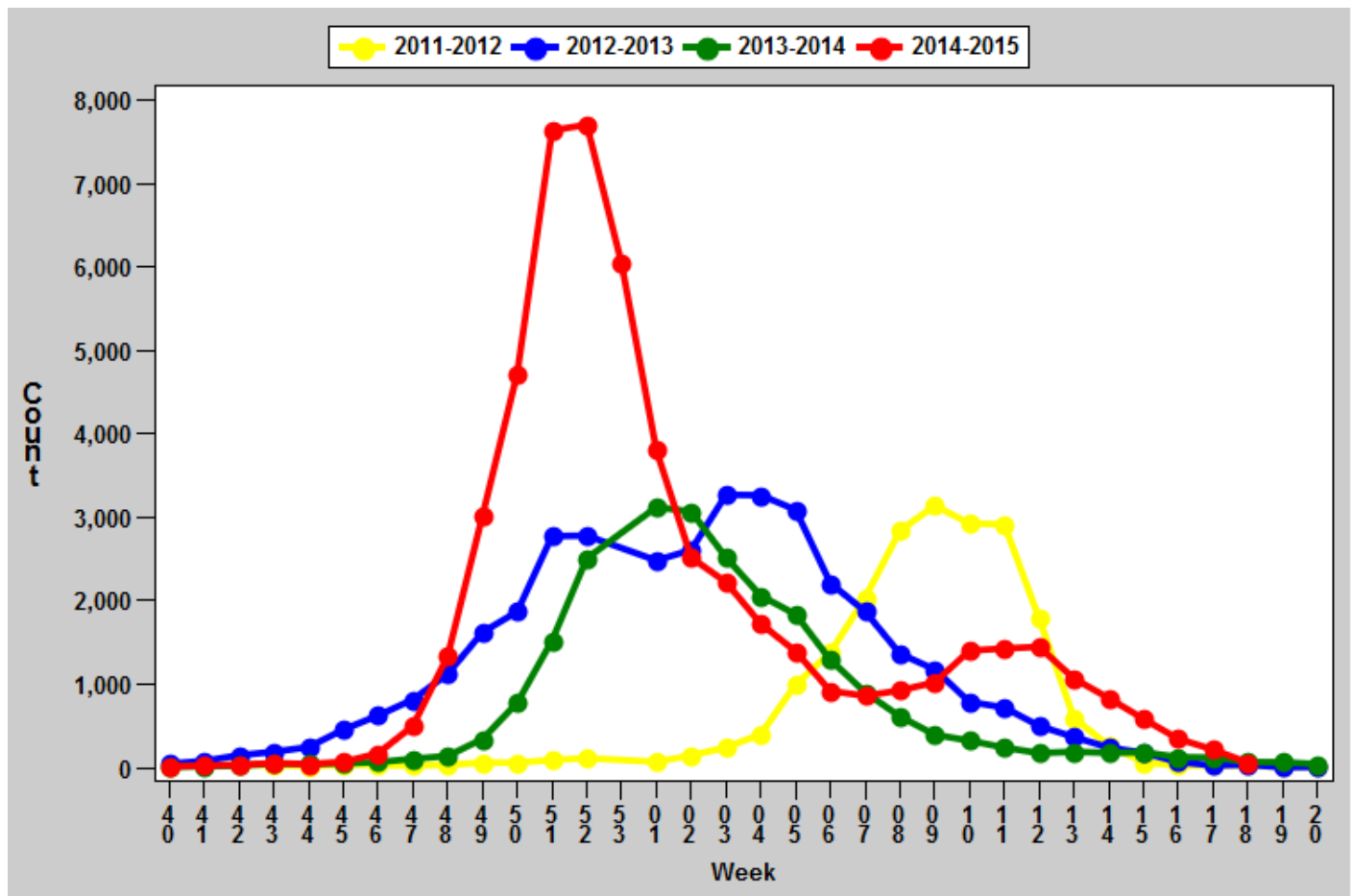
District	Week 18 Cases	Week 18 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	1	0	7,381	1,101
EA	47	2	15,690	700
NW	5	0	15,529	984
SE	5	1	5,759	1,213
SW	3	0	9,790	926
<b>Total</b>	<b>61</b>	<b>1</b>	<b>54,149</b>	<b>899</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

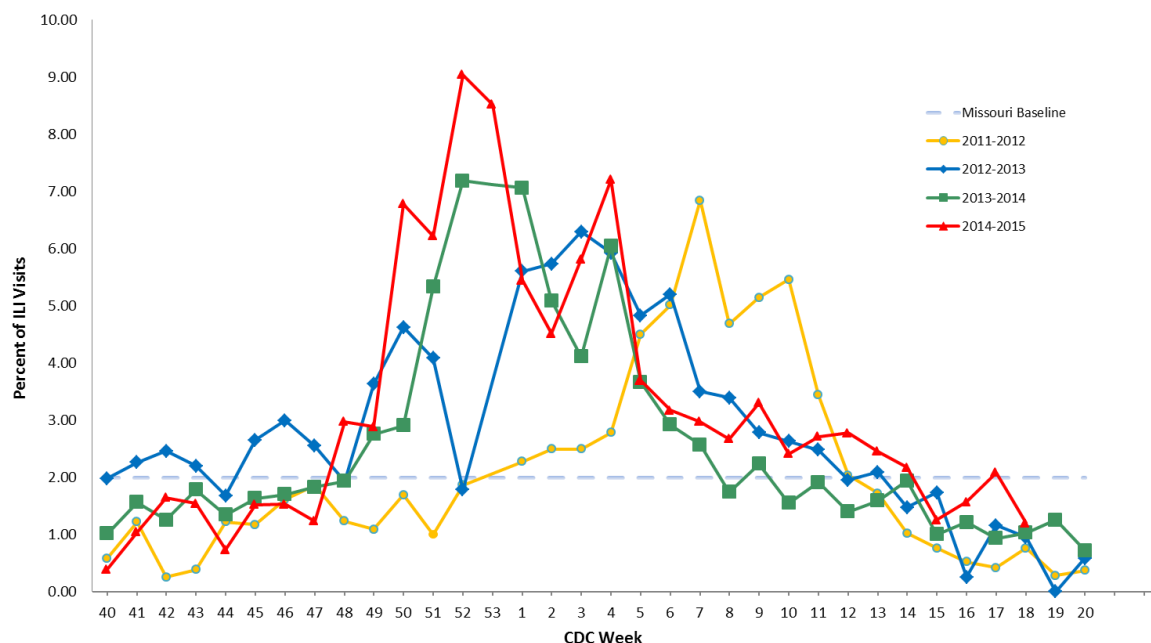
**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***



<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

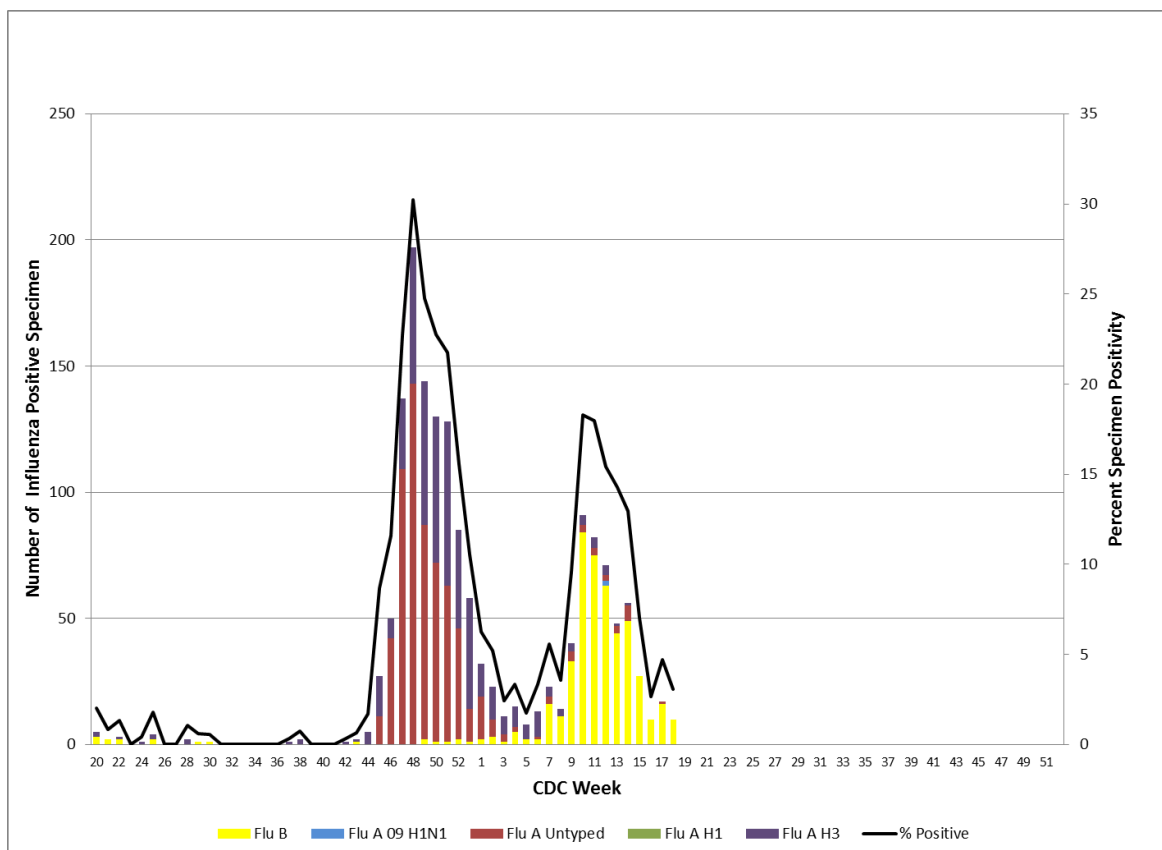
\*2014-2015 Season-to-Date through the week ending May 9, 2015 (Week 18). Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending May 9, 2015 (Week 18)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) and Rapid Influenza Tests**

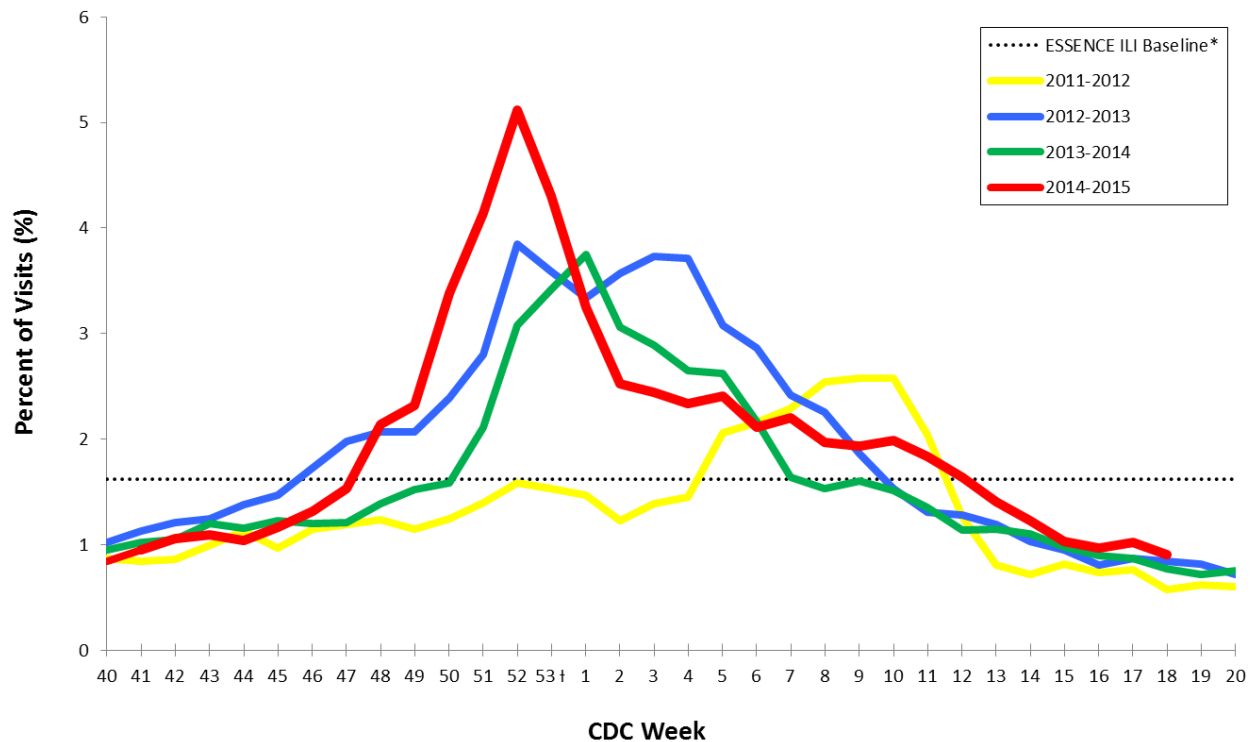


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015**



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

\* The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

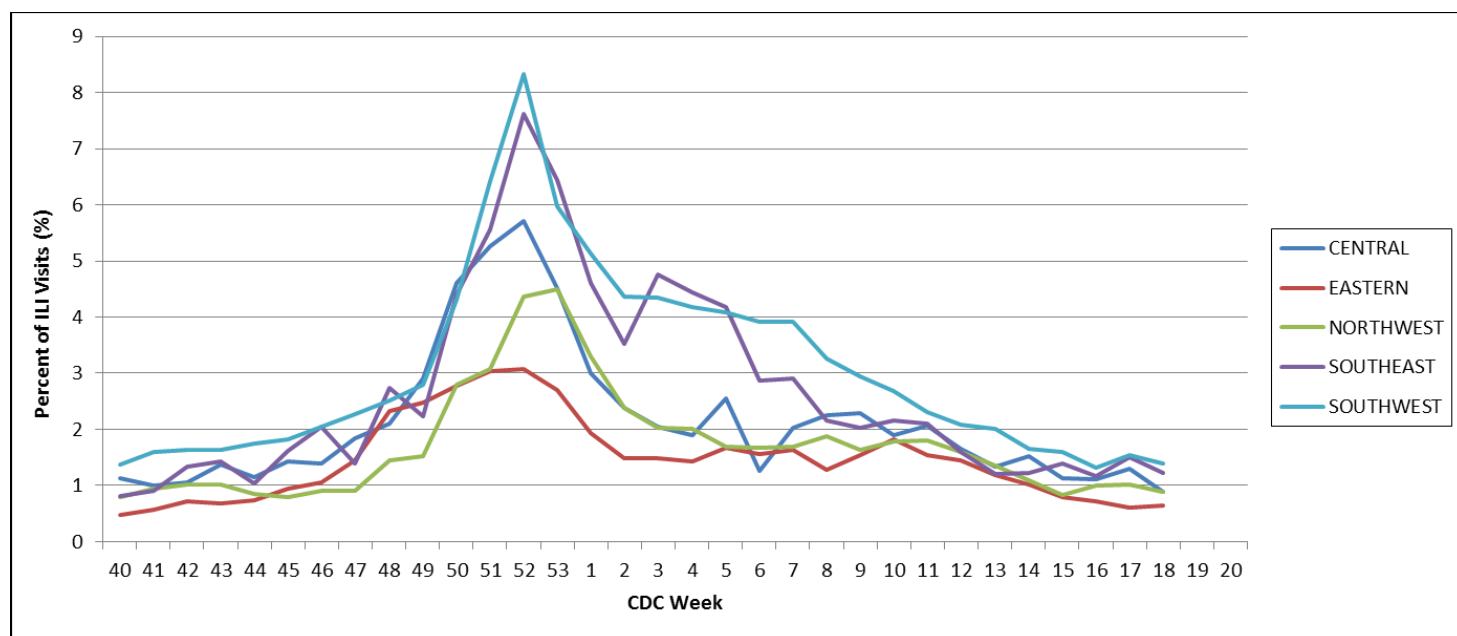
† ILI % for week 53 was estimated for previous seasons by averaging values for weeks 52 and 1 in order to compare to the ILI % for week 53 of the 2014-15 influenza season.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 18 (May 3 – May 9, 2015)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	1.9%	1.2%	0.9%	0.7%	0.3%	0.9%
Central	4.0%	0.8%	0.6%	0.4%	0.8%	0.9%
Eastern	1.0%	1.4%	0.7%	0.4%	0.3%	0.7%
Southeast	4.6%	2.6%	1.2%	0.4%	0.2%	1.2%
Southwest	6.0%	2.8%	0.9%	0.8%	0.3%	1.4%
Statewide	2.7%	1.7%	0.8%	0.6%	0.4%	0.9%

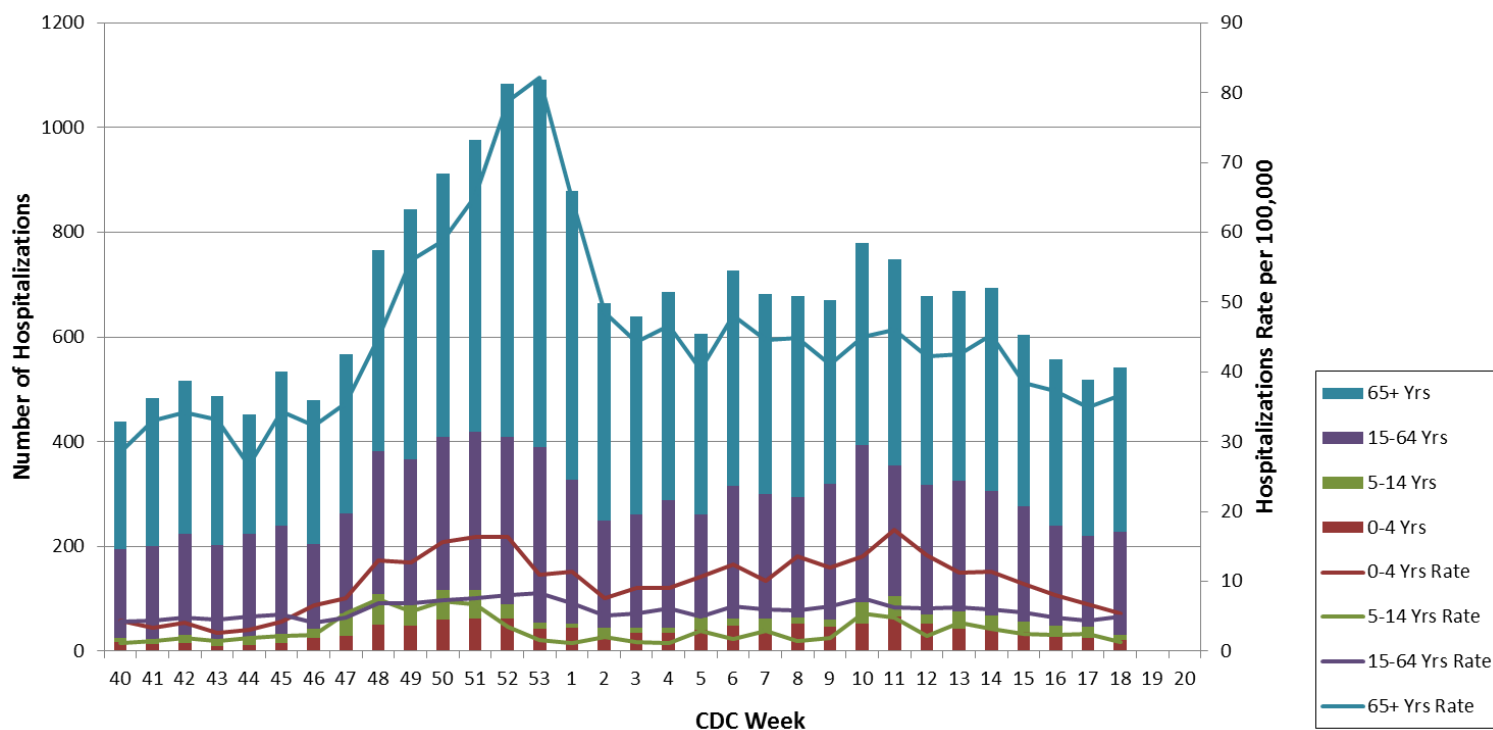
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). \*2014-2015 Season-to-Date through the week ending May 9, 2015 (Week 18).

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>). \*2014-2015 Season-to-Date through the week ending May 9, 2015 (Week 18).



## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)



# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

## Week 19: May 10 – May 16, 2015

*All data are preliminary and may change as more reports are received.*

- The estimated influenza activity in Missouri is Sporadic.<sup>2</sup>
- A season-to-date total of 54,264 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A remains the predominant type reported this season. Influenza B viruses accounted for 100% of the reported cases during Week 19. There were no laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 19.
- The Centers for Disease Control and Prevention (CDC) has antigenically characterized 21 influenza isolates so far this influenza season from Missouri: five A (H3N2) A/TEXAS/50/2012-like, seven A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, four B/MASSACHUSETTS/02/2012-like, and five B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from A/Texas/50/2012 vaccine virus and accounts for 80.7% of the influenza A (H3N2) viruses characterized from U.S. laboratories from October 1, 2014 – May 9, 2015. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 1.38% and 0.8% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years and 5-14 years (1 case per 100,000 population each). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records decreased to 58 deaths during Week 18, resulting in a season-to-date total of 2,867 P&I associated deaths in Missouri<sup>5</sup>.
- No outbreaks of influenza or ILI were reported during Week 19 in Missouri. No ILI-associated school closures were reported during Week 19.
- National influenza activity and surveillance information is prepared by the CDC. The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Sporadic is defined as: influenza-like illness activity has not increased and there are isolated lab-confirmed cases or a lab-confirmed outbreak in a single institution in the state.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=5c1e26c9328744efb288dd616fefa3bb>. Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 19
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

## Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 17 - 19 (April 26 – May 16, 2015)**

Influenza Type	Week 17	Week 18	Week 19	2014-2015* Season-to-Date
Influenza A	26	9	0	41,949
Influenza B	205	86	20	10,929
Influenza Unknown Or Untyped	0	0	0	1,386
Total	231	95	20	54,264

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 19 (May 10 – May 16, 2015)**

Age Group	Week 19 Cases	Week 19 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	3	1	9,907	2,612
05-14	4	1	15,151	1,928
15-64	12	0	21,598	544
65+	1	0	7,608	861
Total	20	0	54,264	901

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 19 (May 10 – May 16, 2015)**

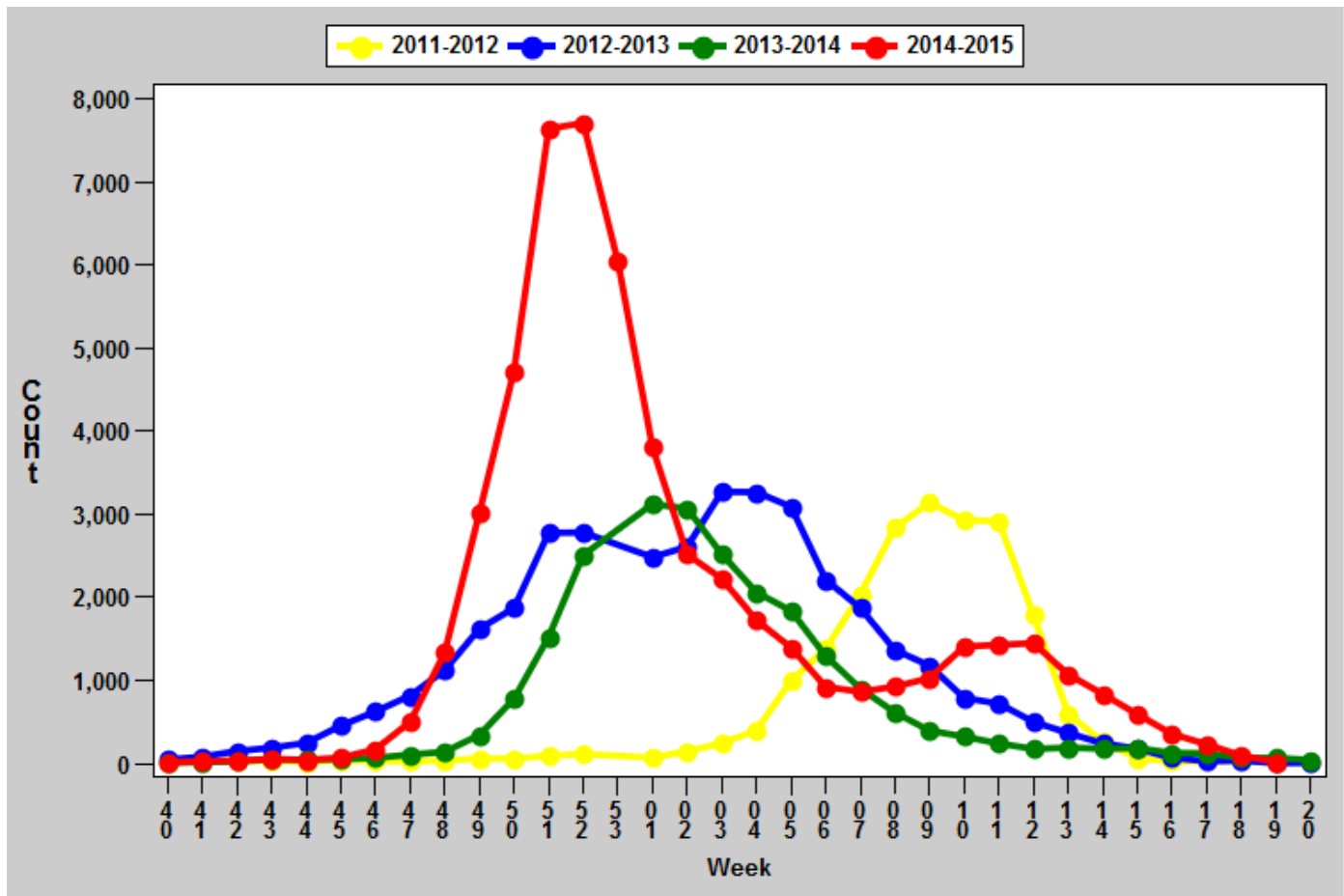
District	Week 19 Cases	Week 19 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	0	0	7,383	1,101
EA	10	0	15,735	702
NW	4	0	15,577	987
SE	1	0	5,771	1,215
SW	5	0	9,798	927
<b>Total</b>	<b>20</b>	<b>0</b>	<b>54,264</b>	<b>901</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

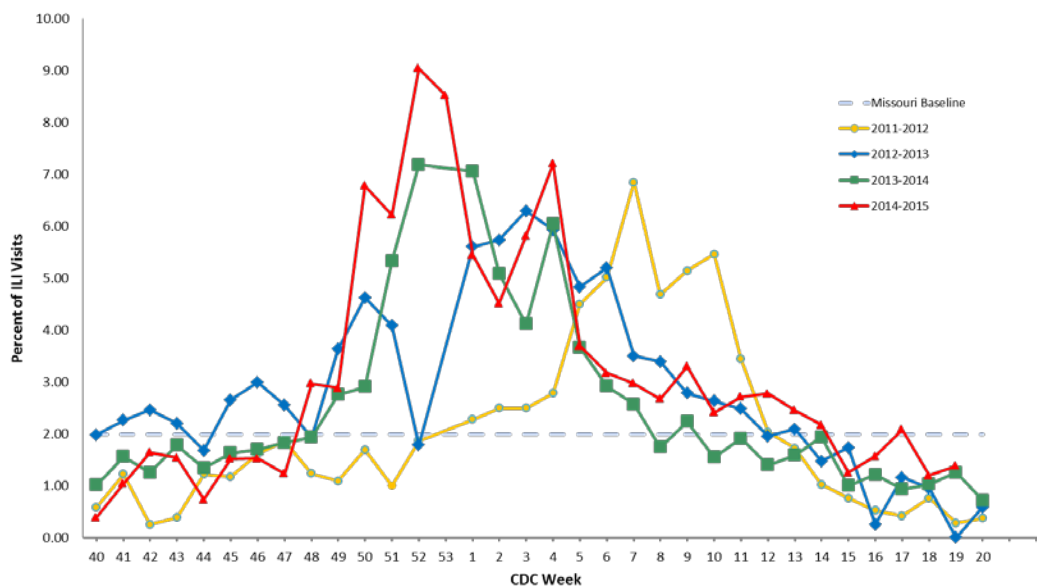
**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***



<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

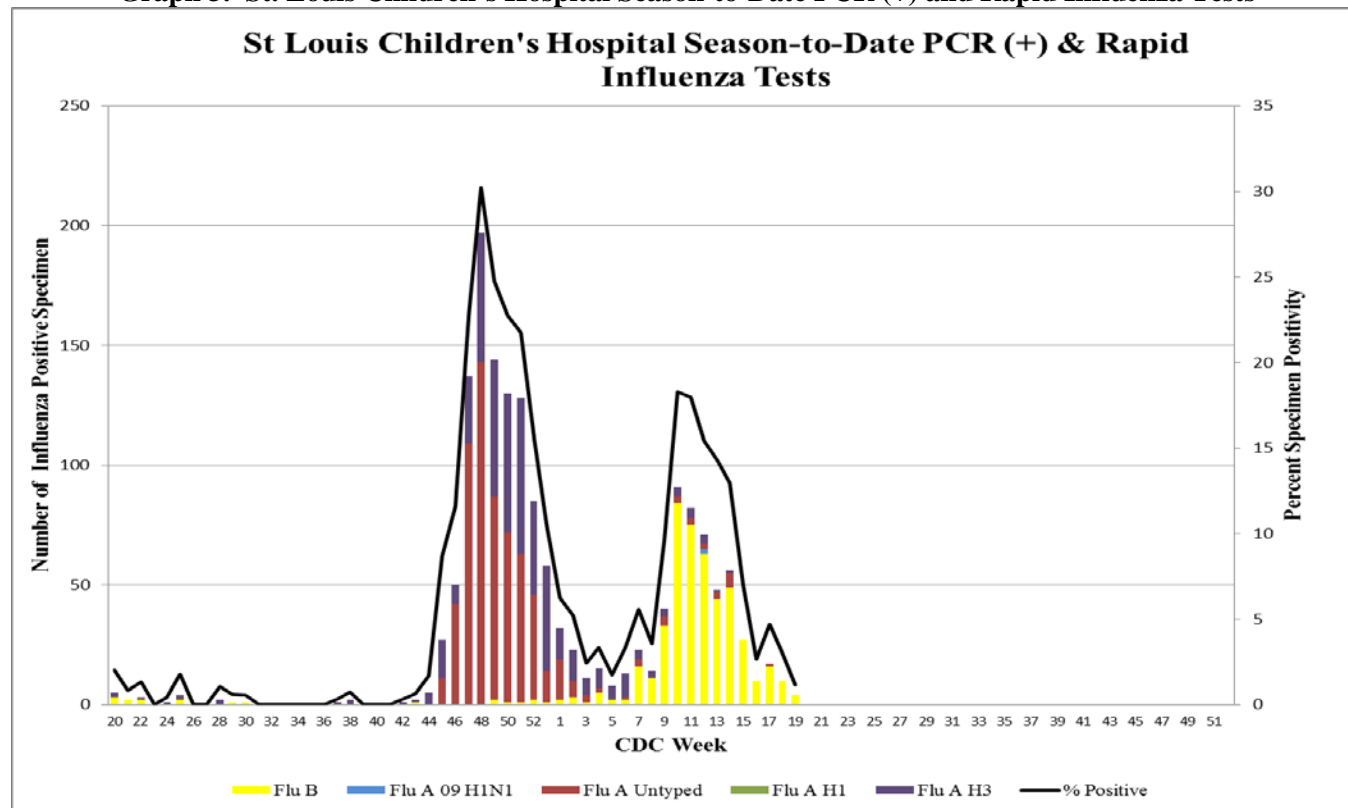
\*2014-2015 Season-to-Date through the week ending May 16, 2015 (Week 19). Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending May 16, 2015 (Week 19)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) and Rapid Influenza Tests**

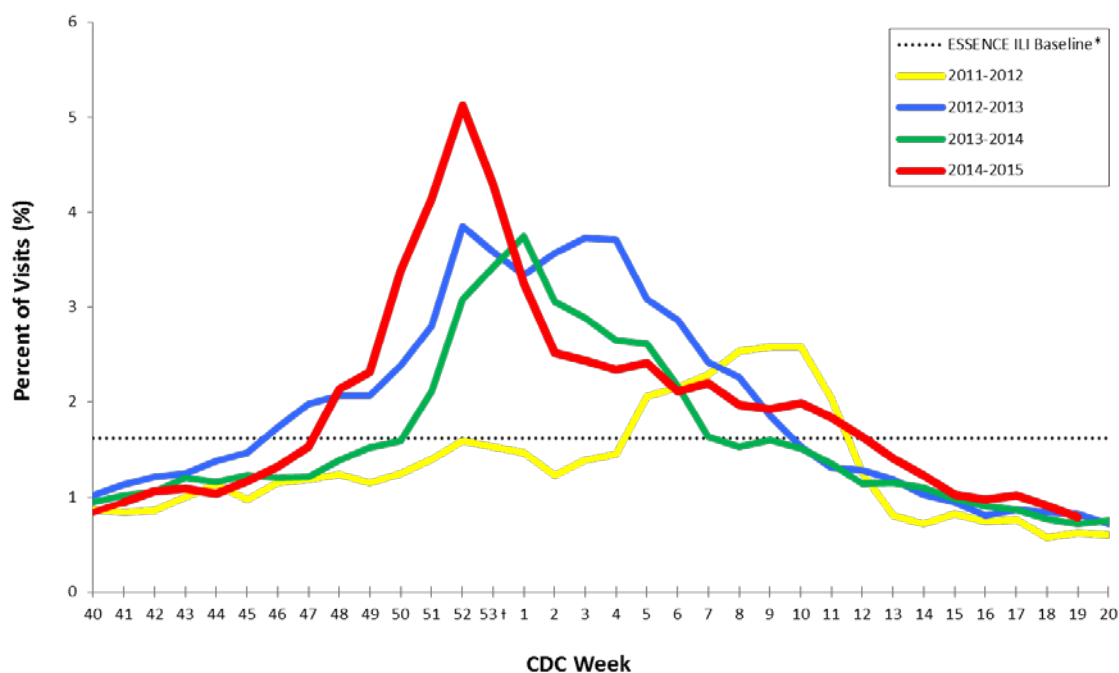


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015**



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

\* The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

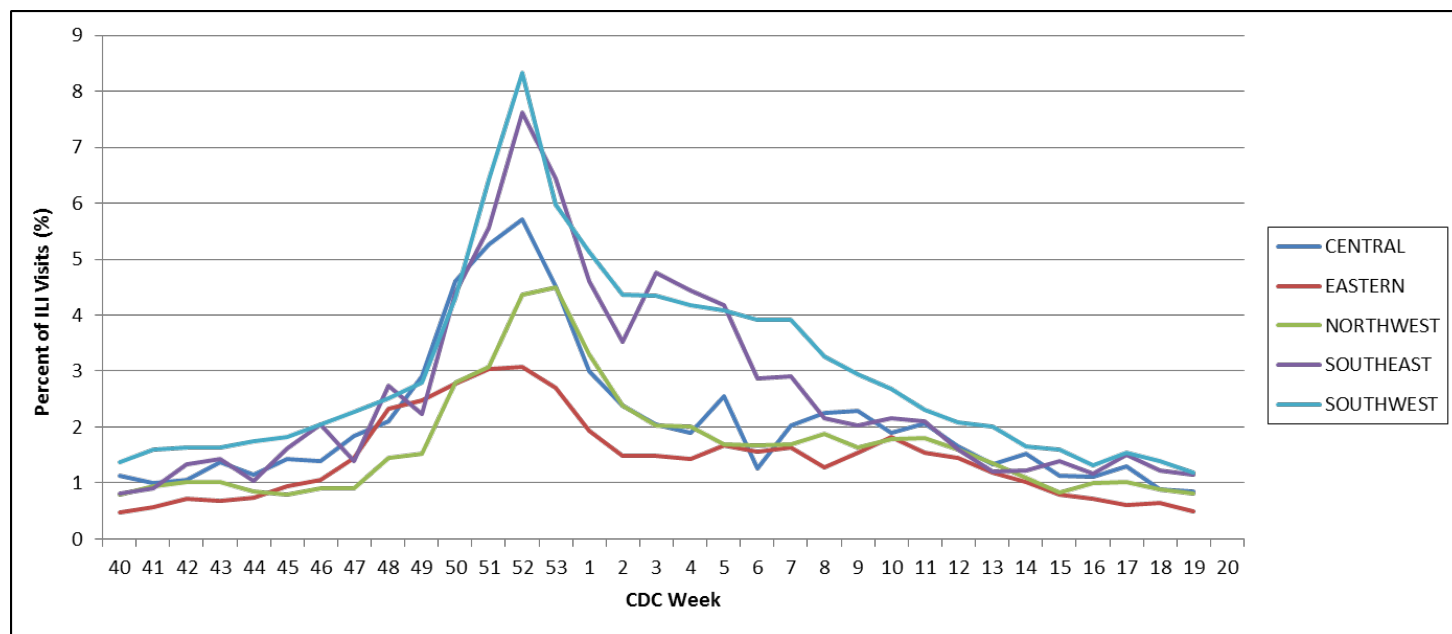
† ILI % for week 53 was estimated for previous seasons by averaging values for weeks 52 and 1 in order to compare to the ILI % for week 53 of the 2014-15 influenza season.

**Table 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI) from ESSENCE Participating Hospitals by Age Group, Missouri, CDC Week 19 (May 10 – May 16, 2015)**

District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	1.9%	1.3%	0.7%	0.7%	0.4%	0.8%
Central	2.8%	1.5%	0.7%	0.5%	0.4%	0.8%
Eastern	1.3%	0.9%	0.5%	0.3%	0.1%	0.5%
Southeast	4.8%	2.3%	0.5%	1.1%	0.3%	1.2%
Southwest	5.0%	3.3%	0.6%	0.3%	0.5%	1.2%
Statewide	2.5%	1.6%	0.6%	0.5%	0.3%	0.8%

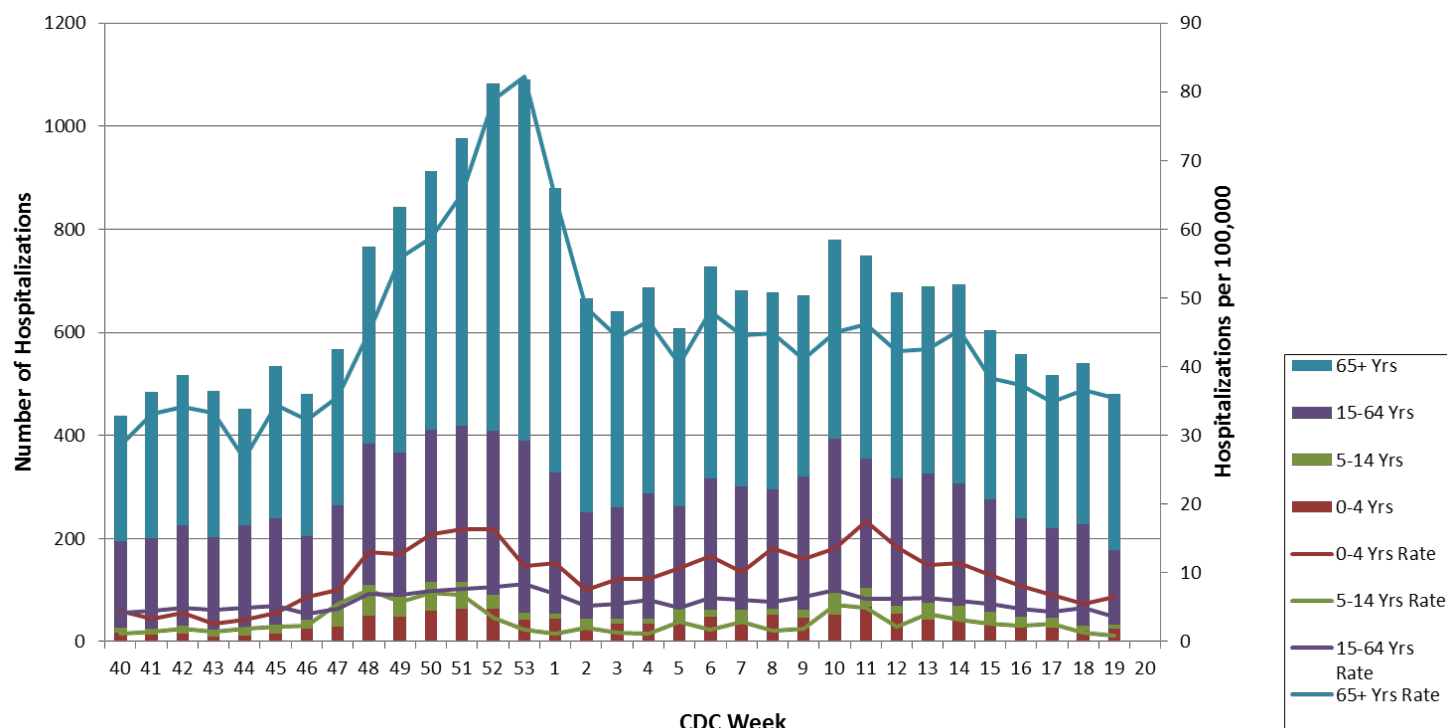
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>).  
\*2014-2015 Season-to-Date through the week ending May 16, 2015 (Week 19).

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/moimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).  
\*2014-2015 Season-to-Date through the week ending May 16, 2015 (Week 19).

## **Additional Influenza Data Sources:**

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)





# Missouri Weekly Influenza Surveillance Report 2014-2015 Influenza Season<sup>1</sup>

**Week 20: May 17 – May 23, 2015**

*All data are preliminary and may change as more reports are received.*

## Summary:

- The estimated influenza activity in Missouri is Sporadic.<sup>2</sup>
- A season-to-date total of 54,316 laboratory-positive<sup>3</sup> influenza cases have been reported in Missouri. Influenza A remains the predominant type reported this season. Influenza B viruses accounted for 100% of the reported cases during Week 20. There were no laboratory-confirmed influenza cases reported by the Missouri State Public Health Laboratory (MSPHL) during Week 20.
- The Centers for Disease Control and Prevention (CDC) has antigenically characterized 21 influenza isolates so far this influenza season from Missouri: five A (H3N2) A/TEXAS/50/2012-like, seven A H3N2 viruses antigenically similar to the A/Switzerland/9715293/2013, four B/MASSACHUSETTS/02/2012-like, and five B/BRISBANE/60/2008-like. Influenza A/TEXAS/50/2012-like and B/MASSACHUSETTS/02/2012-like are included in the 2014-2015 influenza vaccine for the Northern Hemisphere. B/Brisbane/60/2008-like is included in the 2014-2015 Northern Hemisphere quadrivalent influenza vaccine. Influenza A/Switzerland/9715293/2013 is related to, but antigenically and genetically distinguishable, from A/Texas/50/2012 vaccine virus and accounts for 80.7% of the influenza A (H3N2) viruses characterized from U.S. laboratories from October 1, 2014 – May 16, 2015. <http://www.cdc.gov/flu/weekly/>
- Influenza-like illness activity is below baseline for both the Missouri Outpatient ILI Surveillance Network (ILINet) and the hospital emergency room visit chief complaint data reported through ESSENCE. The reported percentage of visits for ILI was 0.92% and 0.7% through ILINet and ESSENCE respectively<sup>4</sup>.
- The highest rate of laboratory-positive influenza cases were among children aged 0-4 years (2 cases per 100,000 population). One influenza-associated pediatric death has been reported in Missouri to date, this influenza season. Deaths involving Pneumonia and Influenza (P&I) reported to the Bureau of Vital Records increased to 70 deaths during Week 19, resulting in a season-to-date total of 2,937 P&I associated deaths in Missouri<sup>5</sup>.
- No outbreaks of influenza or ILI were reported during Week 20 in Missouri. No ILI-associated school closures were reported during Week 20.
- National influenza activity and surveillance information is prepared by the CDC. The information including a weekly report (FLUVIEW) is available online at <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

<sup>1</sup>The 2014-2015 influenza season in Missouri began CDC Week 40 (Week ending October 4, 2014) through CDC Week 20 (week ending May 23, 2015).

<sup>2</sup>Sporadic is defined as: influenza-like illness activity has not increased and there are isolated lab-confirmed cases or a lab-confirmed outbreak in a single institution in the state.

<sup>3</sup>Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

<sup>4</sup>Influenza-like Illness (ILI) is defined as fever (temperature of 100°F [37.8°C] or greater) and a cough and/or a sore throat without a known cause other than influenza.

<sup>5</sup>The P&I data are available one week later. The P&I data for the CDC Week provided is the most current data available.

## Surveillance Data:

### Interactive Maps

The county specific influenza data are provided through interactive maps available at <https://emgis.oa.mo.gov/DPS/BriefingMaps/?bookId=4684cc1bff974c6b9287c7383816118b> . Click on the county to view the influenza data specific to that county.

- Reported Laboratory -positive Influenza Cases by Influenza Type by County, CDC Week 20
- Reported Laboratory -positive Influenza Cases by Influenza Type by County, Season-to-Date
- Percentage of Laboratory-positive Influenza Cases Reported to be Influenza Type A

### Data Tables and Graphs

**Table 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by Influenza Type, Missouri, CDC Week 18 - 20 (May 3 – May 23, 2015)**

Influenza Type	Week 18	Week 19	Week 20	2014-2015* Season-to-Date
Influenza A	9	2	0	41,952
Influenza B	100	30	14	10,977
Influenza Unknown Or Untyped	0	1	0	1,387
Total	109	33	14	54,316

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv).

**Table 2. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Age Group, Missouri, CDC Week 20 (May 17 – May 23, 2015)**

Age Group	Week 20 Cases	Week 20 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
00-04	7	2	9,921	2,616
05-14	1	0	15,163	1,930
15-64	4	0	21,616	544
65+	2	0	7,616	862
Total	14	0	54,316	902

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

**Table 3. Number of Laboratory-positive<sup>†</sup> Influenza Cases and Case Rates by Region, Missouri, CDC Week 20 (May 17 – May 23, 2015)**

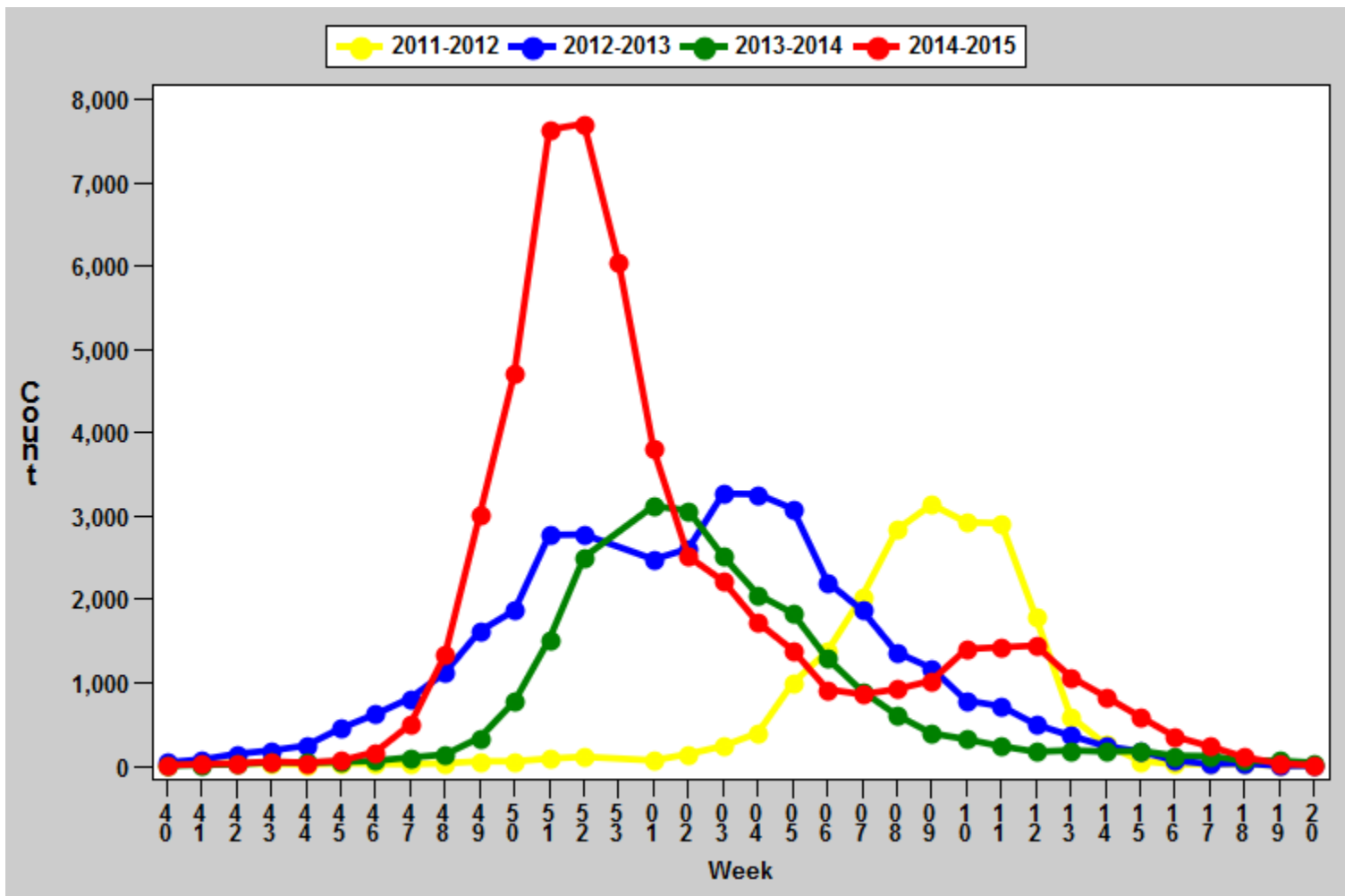
District	Week 20 Cases	Week 20 Rate <sup>‡</sup>	2014-2015* Season-to-Date	2014-2015* Season-to-Date Rate <sup>‡</sup>
CE	0	0	7,383	1,101
EA	12	1	15,770	704
NW	2	0	15,593	988
SE	0	0	5,771	1,215
SW	0	0	9,799	927
<b>Total</b>	<b>14</b>	<b>0</b>	<b>54,316</b>	<b>902</b>

<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40) Data Source: Missouri Health Information Surveillance System (WebSurv)

<sup>‡</sup> Incidence Rate per 100,000 population

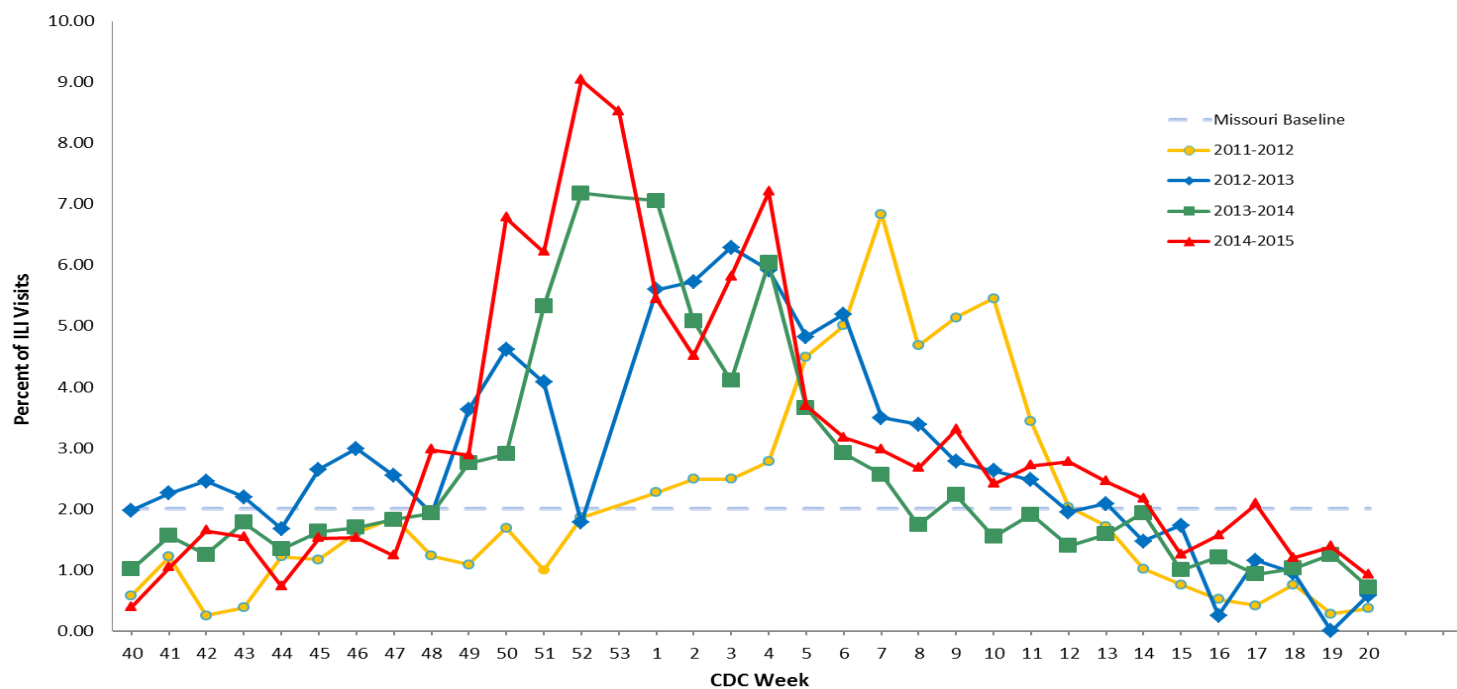
**Graph 1. Number of Laboratory-positive<sup>†</sup> Influenza Cases by CDC Week, Missouri, 2011-2015\***



<sup>†</sup> Laboratory-positive Influenza includes the following test methods: rapid influenza diagnostic tests (antigen), reverse transcriptase polymerase chain reaction (RT-PCR) and other molecular assays, immunofluorescence antibody staining (Direct (DFA) or Indirect (IFA)), or viral culture.

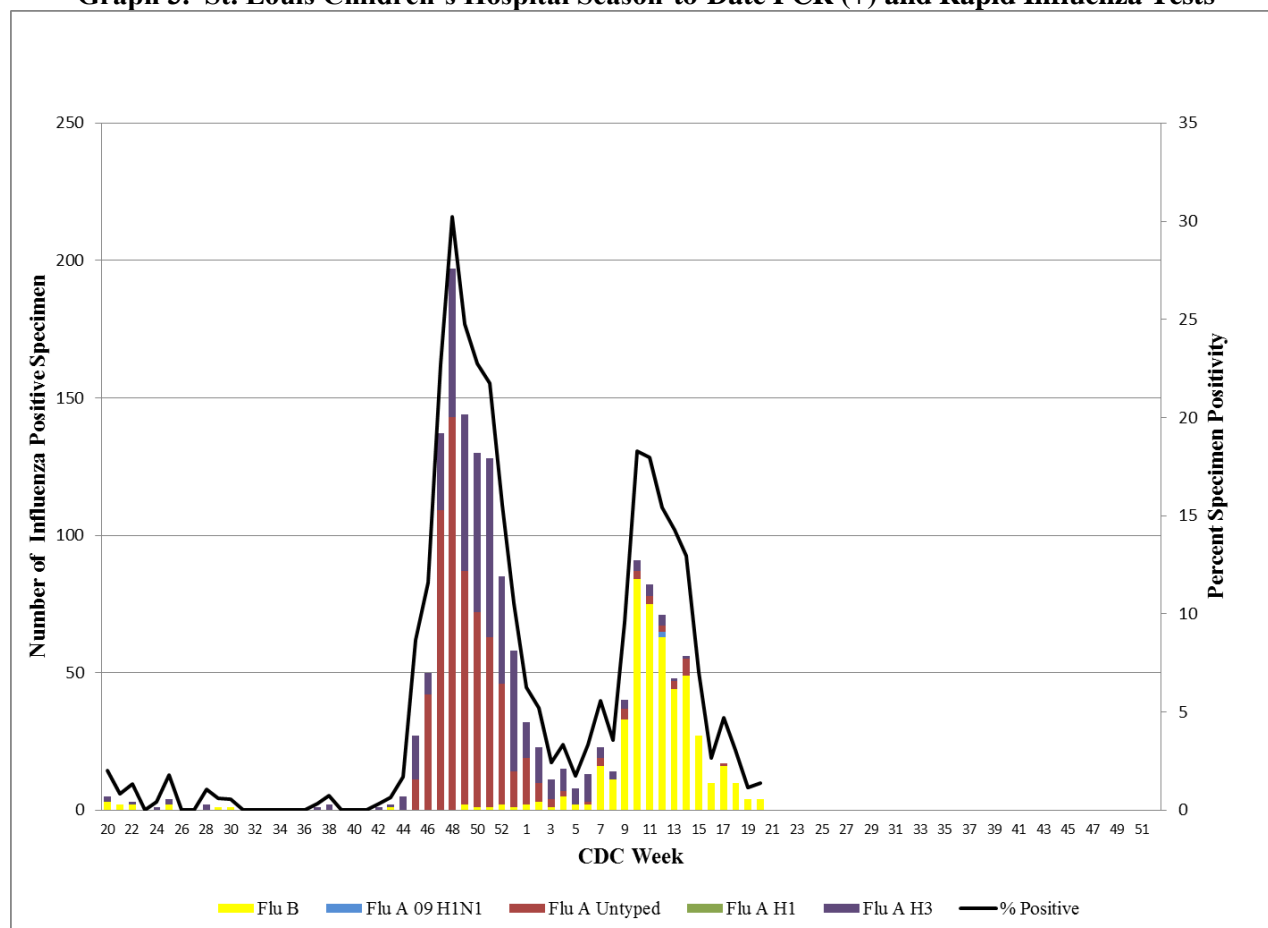
\*2014-2015 Season-to-Date through the week ending May 23, 2015 (Week 20). Data Source: Missouri Health Information Surveillance System (WebSurv).

**Graph 2. Percentage of Visits for Influenza-like-Illness (ILI), Missouri Outpatient ILI Surveillance Network (ILINet) 2011-2015\***



\*2014-2015 Season-to-Date through the week ending May 23, 2015 (Week 20)

**Graph 3. St. Louis Children's Hospital Season-to-Date PCR (+) and Rapid Influenza Tests**

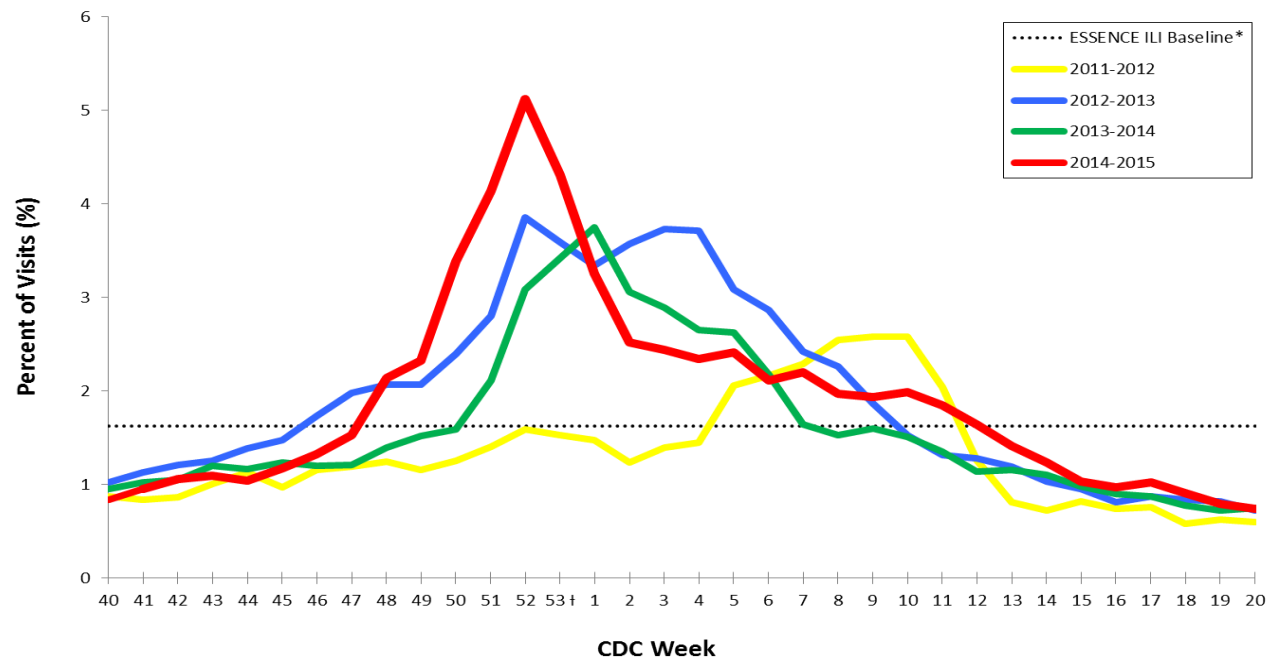


\*Data Source: St. Louis Children's Hospitals

\*This data is based on testing in all age groups in St Louis metro and SE Missouri

\*Influenza Season begins Week Ending October 4, 2014 (CDC Week 40)

**Graph 4. Percentage of Emergency Room Visits with Chief Complaint of Influenza-like Illness (ILI), ESSENCE Participating Hospitals in Missouri, 2011-2015**



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/missourimap.pdf>).

\* The ESSENCE ILI Baseline is the mean percent of ILI visits for each week during the previous three years (2011-13) when percentage of ILI visits were less than 2% of total visits, plus two standard deviations.

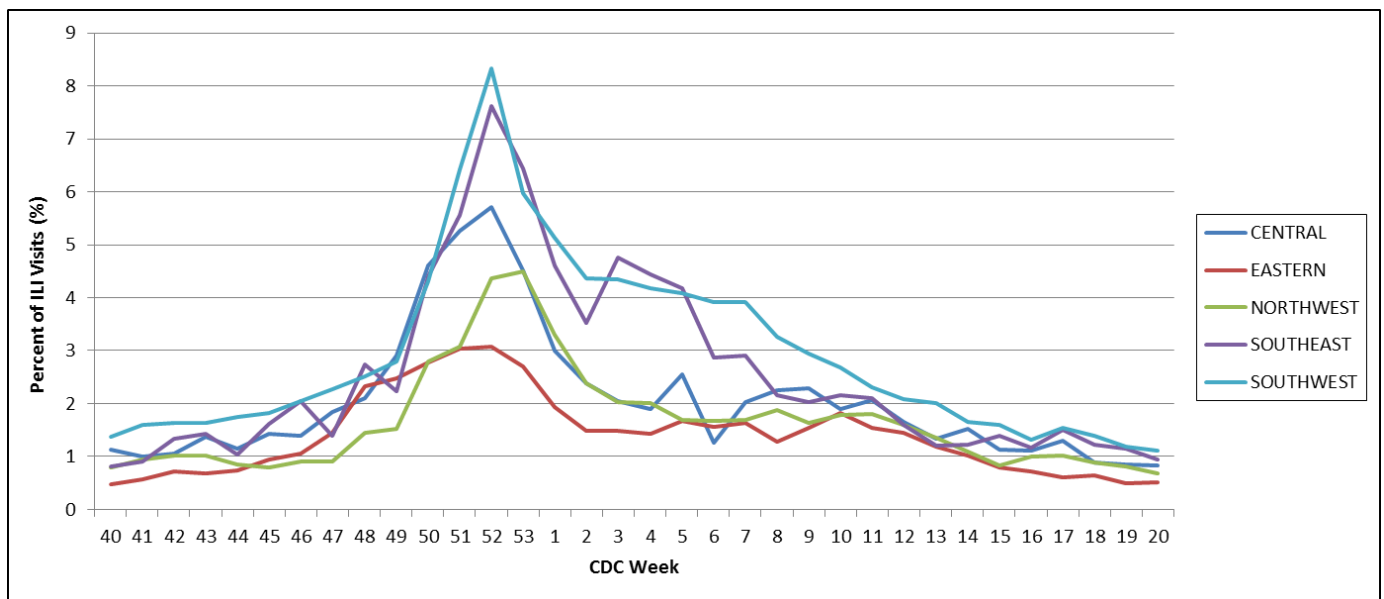
† ILI % for week 53 was estimated for previous seasons by averaging values for weeks 52 and 1 in order to compare to the ILI % for week 53 of the 2014-15 influenza season.

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District	Age 0-4	Age 5-17	Age 18-44	Age 45-64	Age 65+	Total Percentage
Northwest	1.4%	0.9%	0.7%	0.6%	0.3%	0.7%
Central	2.8%	1.1%	0.6%	0.5%	0.7%	0.8%
Eastern	1.4%	1.1%	0.5%	0.2%	0.1%	0.5%
Southeast	5.7%	2.0%	0.6%	0.0%	0.3%	0.9%
Southwest	4.7%	3.0%	0.8%	0.2%	0.4%	1.1%
Statewide	2.4%	1.5%	0.6%	0.3%	0.3%	0.7%

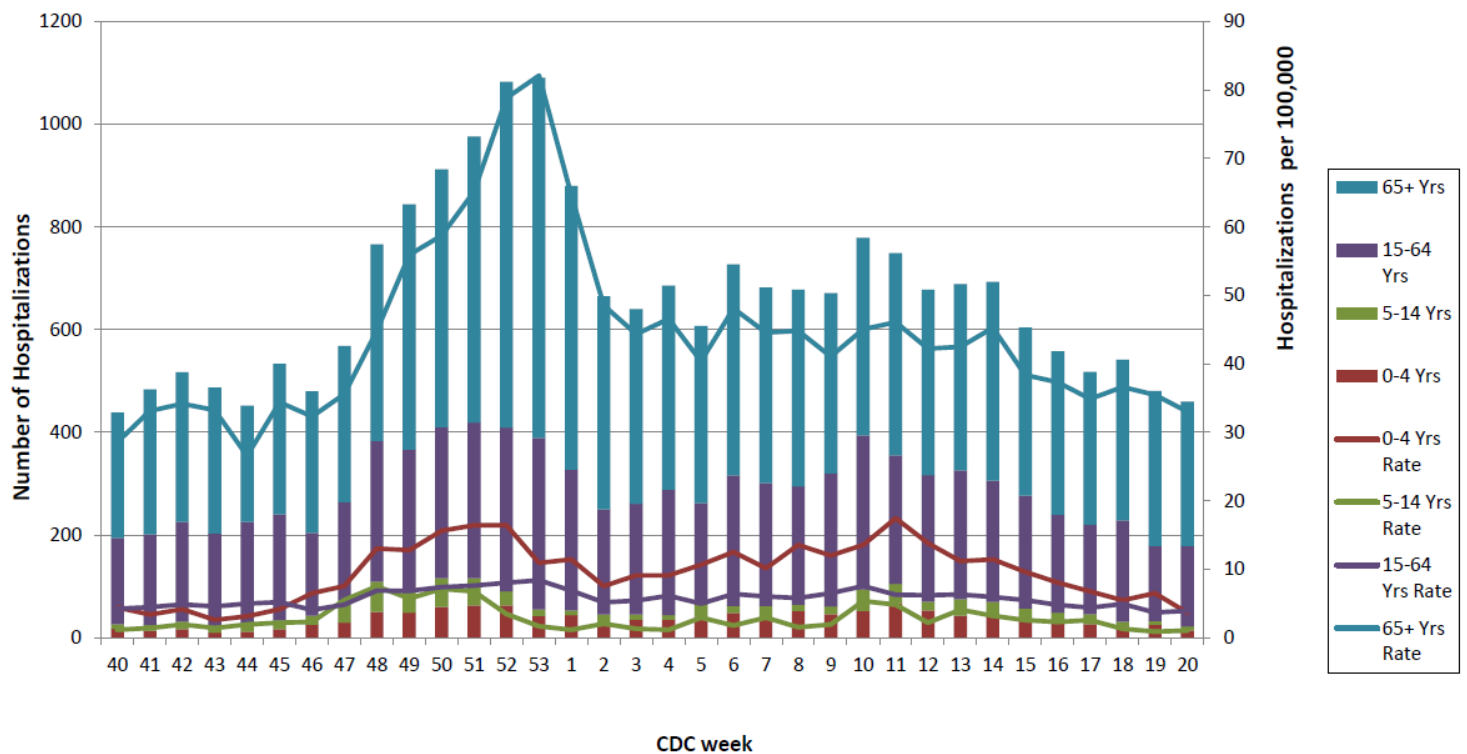
Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/missourimap.pdf>).

**Graph 5. Percentage of Emergency Room Visits with the Chief Complaint of Influenza-like Illness (ILI) for each District by CDC Week, ESSENCE Participating Hospitals in Missouri, 2014-2015\***



Data Source: Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE. ESSENCE includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/missourimap.pdf>).  
 \*2014-2015 Season-to-Date through the week ending May 23, 2015 (Week 20).

**Graph 6. Number and Rate of Patients by Age Group Hospitalized with Influenza and/or Pneumonia Syndromes at Participating Missouri Hospitals, by CDC Week, 2014-2015\***



Data Source: Hospitalization data from Missouri Department of Health and Senior Services (DHSS), Bureau of Reportable Disease Informatics, ESSENCE HL7 messaging portal. Includes data from 103 reporting facilities in Missouri (<http://health.mo.gov/data/essence/pdf/missourimap.pdf>). Population data from DHSS Population MICA 2012 (<http://health.mo.gov/data/mica/mica/population.php>).

\*2014-2015 Season-to-Date through the week ending May 23, 2015 (Week 20).

## Additional Influenza Data Sources:

St Louis Children's Hospital Laboratory: <http://slchlabtestguide.bjc.org/Default.aspx?url=7fc7ae5e-0d4b-4ffa-baab-7fa34d1545c3>

Centers for Disease Control and Prevention: National Influenza Surveillance (FLUVIEW)  
<http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

World Health Organization: International Influenza Surveillance:  
[http://www.who.int/influenza/surveillance\\_monitoring/en/](http://www.who.int/influenza/surveillance_monitoring/en/)